STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 176439

TO: Bao-Qun Li Location: 3d24 / 3c18 Monday, February 06, 2006 Art Unit: 1648 Phone: 571-272-0904 Serial Number: 09 / 985860	From: Jan Delaval Location: Biotech-Chem Library Remsen 1a51 Phone: 571-272-2504 jan.delaval@uspto.gov

995-860

Search Notes

STIC SEARCH RESULTS FEEDBACK FORM

USPTO

Biotech-Chem Libra

Questions about the scope or the results of the search? Contact ***the searcher or contact:***

Mary Hale, Information Branch Supervisor
22507, Remsen 1d86

Voluntary Results Feedback

- *I am an examiner in Workgroup:* [ ] *Example: 1610*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art **not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

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Search and Information Resources Administration

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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Li, Bassam Li Examiner #: 78206 Date: 1-12-2006
Art Unit: 1648 Phone Number: 27 0904 Serial Number: 09/995,860
Location (Bldg/Room#): KM (Mailbox #): 3C18 Results Format Preferred (circle): PAPER DISK
3D24

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: As attached

Inventors (please provide full names): as attached

Earliest Priority Date: June 04, 1998

Search Topic:
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

please search any composition ~~comprises~~ and a method of using the composition (see claims attached) wherein the composition can be any composition comprising HCV ~~E~~envelope protein E1. ~~Also~~ please do the inventors names search also in the data base.

Thank you!

STAFF USE ONLY

Searcher: Ian
Searcher Phone #: 22504
Searcher Location: _____
Date Searcher Picked Up: 2/6/06
Date Completed: 2/6/06
Searcher Prep & Review Time: 180
Online Time: 191

Type of Search

_____ NA Sequence (#)
✓ AA Sequence (#)
_____ Structure (#)
✓ Bibliographic
_____ Litigation
_____ Fulltext
_____ Other

Vendors and cost where applicable

✓ STN _____ Dialog
_____ Questel/Orbit _____ Lexis/Nexis
_____ Westlaw _____ WWW/Internet
_____ In-house sequence systems
✓ Commercial _____ Oligomer _____ Score/Length
_____ Interference _____ SPDI _____ Encode/Transl
_____ Other (specify)

```
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS, USPATFULL
DT.CA  CAplus document type:  Patent
RL.P   Roles from patents:  ANST (Analytical study); BIOL (Biological study);
       OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties)
              1 REFERENCES IN FILE CA (1907 TO DATE)
              1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE   1:  130:349392


=> d his

     (FILE 'HOME' ENTERED AT 09:05:31 ON 06 FEB 2006)
               SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 09:05:43 ON 06 FEB 2006
               E MAERTENS G/AU
L1          66 S E3,E4
               E BOSMAN F/AU
L2          51 S E3-E5
               E BUYSE M/AU
L3          27 S E3,E4,E8,E9
               E INNOGEN/PA,CS
L4         207 S E11-E55
L5           2 S US20030118603/PN OR US2001-995860#/AP,PRN
L6       17671 S HCV OR HEPATIT?(L)C(L)(?VIRUS? OR ?VIRAL? OR ?VIRUC?)
               E HCV/CT,CW
               E E3+ALL
               E E3+ALL
L7       10769 S E7+OLD,NT
               E E6+ALL
L8       10779 S E6+NT
L9       17761 S L6-L8
L10        887 S L9 AND ("E1" OR E1S OR ENVELOPE(S)1)
L11        344 S L10 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L12         19 S L1-L5 AND L11
               SEL AN 7 18
L13         17 S L12 NOT E1-E4
L14         55 S L1-L5 AND L9 NOT L12
L15         19 S L14 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L16         71 S L11 AND A61K039/IPC
L17         53 S L11 AND A61K039-29/IPC
L18         18 S L16 NOT L17
               SEL AN 2
L19          1 S L18 AND E5-E6
L20         19 S L17 AND (PHARMACEUT? OR PHARMACOL?)/SC,SX
               SEL AN 4 7 9 10 11 17 19
L21         12 S L20 NOT E7-E20
L22         34 S L17 NOT L20
L23          4 S L22 AND "E1"/TI
L24         30 S L22 NOT L23
L25         11 S L24 AND "E1"/AB
L26         19 S L24 NOT L25
L27          1 S L26 AND "E 1"
L28         18 S L26 NOT L27
L29         12 S L28 AND ("E1" OR ENVELOPE 1)
               SEL AN 1 3-7 9-10 12
L30          3 S L29 NOT E21-E38
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L31          18 S L11 AND (A16K039-44 OR A61K039-42 OR C07K017)/IPC
                SEL AN 2 4-8 10-18
L32           3 S L31 NOT E39-E68
L33          15 S L31 NOT L32
                SEL AN 1-4 6-8 10 12-14
L34           4 S L33 NOT E69-E90
L35          11 S L33 NOT L34
                SEL AN 4 11
L36           2 S L35 AND E91-E94
L37          32 S L13,L19,L21,L23,L27,L30,L32,L34,L36
L38          32 S L37 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L39          36 S L9 AND 192
L40          23 S L9 AND 326
L41           2 S L39 AND L40
L42           1 S L41 NOT NEISSERIA/TI

     FILE 'REGISTRY' ENTERED AT 09:37:28 ON 06 FEB 2006
L43           1 S 763256-03-7
L44           3 S HEPATITIS(S)C(S)192(S)326
L45           3 S L43,L44

     FILE 'HCAPLUS' ENTERED AT 09:38:54 ON 06 FEB 2006
L46           3 S L45
L47           2 S L46 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L48          33 S L38,L42,L46,L47
L49          33 S L48 AND L1-L42,L46-L48
L50          33 S L49 AND ("E1" OR E1S OR "E 1" OR ENVELOPE 1)

     FILE 'REGISTRY' ENTERED AT 09:40:26 ON 06 FEB 2006

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FILE 'HCAPLUS' ENTERED AT 09:40:53 ON 06 FEB 2006
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FILE LAST UPDATED: 5 Feb 2006  (20060205/ED)

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 substance identification.

=> d l50 all tot

L50  ANSWER 1 OF 33  HCAPLUS  COPYRIGHT 2006 ACS on STN
AN   2005:1283352  HCAPLUS
DN   144:35284
```

ED Entered STN: 08 Dec 2005
TI **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C
IN Depla, Erik; Verheyden, Gert; Bosman, Alfons; Depraetere, Stany
PA **Innogenetics N.V., Belg.**
SO Eur. Pat. Appl., 48 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C07K0014-18
ICS C07K0016-10; A61K0039-29; A61K0039-395; G01N0033-50; A61P0031-14
CC 15-2 (Immunochemistry)
Section cross-reference(s): 1, 3, 9, 63
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1602664	A1	20051207	EP 2005-101785	20050308
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
	EP 1574517	A1	20050914	EP 2004-447057	20040309
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
PRAI	US 2004-550421P	P	20040308		
	EP 2004-447057	A	20040309		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1602664	ICM	C07K0014-18
	ICS	C07K0016-10; A61K0039-29; A61K0039-395; G01N0033-50; A61P0031-14
	IPCI	C07K0014-18 [ICM,7]; C07K0016-10 [ICS,7]; A61K0039-29 [ICS,7]; A61K0039-395 [ICS,7]; G01N0033-50 [ICS,7]; A61P0031-14 [ICS,7]
	ECLA	C07K016/10N1
EP 1574517	IPCI	C07K0014-18 [ICM,7]; C07K0016-10 [ICS,7]; A61K0039-29 [ICS,7]; A61K0039-395 [ICS,7]; G01N0033-50 [ICS,7]; A61P0031-14 [ICS,7]
	ECLA	C07K016/10N1

AB The invention relates to recombinantly or synthetically produced **HCV E1** envelope proteins or parts thereof comprising disulfides between specific cysteine residues. The invention further relates to viral-like particles and compns. comprising said **HCV E1** envelope proteins or parts thereof as well as to methods using said **HCV E1** envelope proteins or parts thereof, and to kits comprising said **HCV E1** envelope proteins or parts thereof.

ST **hepatitis C virus E1** envelope protein disulfide antibody vaccine
IT Hepatitis
(C, vaccine; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT Hybridoma
(DSM ACC 2470; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT Glycoproteins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL

(Biological study); PREP (Preparation); USES (Uses)
(**E1**; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Ligands
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**E1**; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Disulfide group
Drug delivery systems
Drug screening
Drugs
Epitopes
Eukaryota
Hepatitis C virus
Human
Immunoassay
Mammalia
Molecular cloning
Pichia angusta
Protein sequences
Sulfhydryl group
Test kits
Vaccines
cDNA sequences
(**HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of **hepatitis C**)

IT Chemical compounds
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Immune complexes
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Polyproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Immunostimulants
(adjuvants; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Structure-activity relationship

(antibody-binding; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Samples
(biol.; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Drug delivery systems
(carriers; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Proteins
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(carriers; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(core; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(heavy chain; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Infection
(hepatitis C, vaccine; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Diagnosis
(immunodiagnosis; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(labeled; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(light chain; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)

IT Molecules
(non-proteinaceous; **HCV E1** envelope polypeptides

comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT Drug delivery systems
(particles, **virus**-like; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of **hepatitis C**)
IT Mutagenesis
(site-directed, deletion; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT Mutagenesis
(site-directed, substitution; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT Vaccines
(synthetic; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT **870796-52-4P** 870796-55-7P 870796-56-8P 870809-05-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT 870796-53-5P 870796-54-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; **HCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT 442851-81-2 442851-86-7 870801-20-0 870801-21-1 870801-23-3 870801-24-4 870801-26-6 870801-27-7 870801-28-8
RL: PRP (Properties)
(unclaimed protein sequence; **hCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
IT 138220-73-2 870772-47-7 870772-48-8 870772-49-9 870772-50-2 870772-51-3 870772-52-4 870772-53-5
RL: PRP (Properties)
(unclaimed sequence; **hCV E1** envelope polypeptides comprising specific disulfide bridges and antibodies for diagnosis and therapy of hepatitis C)
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Chiron Corporation; WO 9604301 A 1996 HCAPLUS
(2) Chiron Corporation; WO 9850556 A 1998 HCAPLUS
(3) Deleersnyder, V; JOURNAL OF VIROLOGY 1997, V71(1), P697 HCAPLUS
(4) Huessy, P; VIRUS RESEARCH 1996, V45(1), P45 HCAPLUS
(5) Maertens, G; WO 9950301 A 1999 HCAPLUS
(6) Maertens, G; US 2003118603 A1 2003
(7) Sablon, E; WO 02085932 A 2002 HCAPLUS
(8) Sobolev, B; JOURNAL OF VIRAL HEPATITIS 2000, V7(5), P368 MEDLINE

L50 ANSWER 2 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:780125 HCAPLUS
DN 141:294670
ED Entered STN: 24 Sep 2004
TI **Hepatitis C virus E1s** and E1p

```
=> fil reg
FILE 'REGISTRY' ENTERED AT 09:40:26 ON 06 FEB 2006
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DICTIONARY FILE UPDATES:   5 FEB 2006  HIGHEST RN 873536-40-4

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*********************************************************************
*                                                                   *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
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* available and contains the CA role and document type information. *
*                                                                   *
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experimental property data in the original document.  For information
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http://www.cas.org/ONLINE/UG/regprops.html

=> d sqide can tot 145

L45  ANSWER 1 OF 3  REGISTRY  COPYRIGHT 2006 ACS on STN
RN   870796-52-4  REGISTRY
CN   (192-326)-Glycoprotein E1 (hepatitis C virus) (9CI)  (CA INDEX
     NAME)
OTHER NAMES:
CN   1: PN: EP1602664 SEQID: 1 claimed protein
FS   PROTEIN SEQUENCE
SQL  135

PATENT ANNOTATIONS (PNTE):
Sequence |Patent
Source   |Reference
=========+==========
Not Given|EP1602664
         |claimed
         |SEQID 1


SEQ      1 YEVRNVSGMY HVTNDCSNSS IVYEAADMIM HTPGCVPCVR ENNSSRCWVA
        51 LTPTLAARNA SVPTTTIRRH VDLLVGAAAF CSAMYVGDLC GSVFLVSQLF
```

for vaccination)
IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NS5A (nonstructural, 5A); particles of **HCV** envelope proteins for vaccination)
IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NS5B; particles of **HCV** envelope proteins for vaccination)
IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(P7; particles of **HCV** envelope proteins for vaccination)
IT Halogens
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(active; particles of **HCV** envelope proteins for vaccination)
IT Disulfide group
(cleavage agent; particles of **HCV** envelope proteins for vaccination)
IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(core; particles of **HCV** envelope proteins for vaccination)
IT Transplant and Transplantation
Transplant and Transplantation
(liver; particles of **HCV** envelope proteins for vaccination)
IT Alkylating agents, biological
Chimpanzee
Detergents
Genotypes
Hepatitis C virus
Immunoassay
Immunotherapy
Molecular cloning
Protein sequences
Test kits
Vaccines
(particles of **HCV** envelope proteins for vaccination)
IT Antibodies
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(particles of **HCV** envelope proteins for vaccination)
IT Envelope proteins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(particles of **HCV** envelope proteins for vaccination)
IT Antigens
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(particles of **HCV** envelope proteins for vaccination)
IT Salts, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

(Uses)
(particles of **HCV** envelope proteins for vaccination)
IT Liver
Liver
(transplant; particles of **HCV** envelope proteins for vaccination)
IT 253421-91-9 253421-92-0 253421-95-3 253421-96-4
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; particles of **HCV** envelope proteins for vaccination)
IT 151-56-4, Aziridine, biological studies 67680-56-2
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(cysteine alkylation; particles of **HCV** envelope proteins for vaccination)
IT 253421-93-1 253421-94-2
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; particles of **HCV** envelope proteins for vaccination)
IT 107-43-7, Betaine 9005-64-5, Tween 20 9005-65-6, Tween 80
29836-26-8, Octylglucoside 75621-03-3, CHAPS
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(particles of **HCV** envelope proteins for vaccination)
IT 52-90-4, Cysteine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(residue alkylation; particles of **HCV** envelope proteins for vaccination)
IT 253422-06-9, 2: PN: WO9967285 SEQID: 5 unclaimed DNA 253422-07-0, 3: PN: WO9967285 SEQID: 6 unclaimed DNA 253422-08-1, 6: PN: WO9967285 SEQID: 7 unclaimed DNA 253422-09-2, 8: PN: WO9967285 SEQID: 8 unclaimed DNA 253422-10-5, 9: PN: WO9967285 SEQID: 9 unclaimed DNA 253422-11-6 253422-15-0, 11: PN: WO9967285 FIG: 16A unclaimed DNA 253422-16-1, 12: PN: WO9967285 FIG: 16A unclaimed DNA 253422-17-2, 13: PN: WO9967285 FIG: 16B unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; particles of **HCV** envelope proteins, use for vaccination)
IT 224570-67-6
RL: PRP (Properties)
(unclaimed protein sequence; 00particles of **HCV** envelope proteins, use for vaccination)
IT 224434-60-0 224434-61-1 224570-41-6 224570-59-6 253422-12-7 253422-13-8 253422-14-9 253422-18-3 253598-33-3
RL: PRP (Properties)
(unclaimed protein sequence; particles of **HCV** envelope proteins, use for vaccination)
IT 253343-31-6 253343-32-7 253343-33-8 253343-34-9
RL: PRP (Properties)
(unclaimed sequence; particles of **HCV** envelope proteins, use for vaccination)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bosman, F; 48TH ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES HEPATOLOGY 1997, V26(4 PART 2), P412A
(2) Innogenetics; WO 9604385 A 1996 HCAPLUS
(3) Innogenetics; WO 9613590 A 1996 HCAPLUS
(4) The Government Of The United States Of America; WO 9821338 A 1998 HCAPLUS

L50 ANSWER 7 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:640560 HCAPLUS
DN 131:270949
ED Entered STN: 08 Oct 1999
TI Epitopes in viral envelope proteins and specific antibodies directed against these epitopes: use for detection of **HCV** viral antigen in host tissue
PA **Innogenetics N.V., Belg.**
SO Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C07K0016-10
ICS C12N0005-20; G01N0033-576
ICA C07K0014-08
CC 15-2 (Immunochemistry)
Section cross-reference(s): 9
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 947525	A1	19991006	EP 1998-870060	19980327 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CA 2321179	AA	19991007	CA 1999-2321179	19990329 <--
	WO 9950301	A2	19991007	WO 1999-EP2154	19990329 <--
	WO 9950301	A3	19991125		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9936022	A1	19991018	AU 1999-36022	19990329 <--
	AU 756495	B2	20030116		
	BR 9909026	A	20001205	BR 1999-9026	19990329 <--
	TR 200002695	T2	20001221	TR 2000-200002695	19990329 <--
	EP 1064309	A2	20010103	EP 1999-917909	19990329 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002510038	T2	20020402	JP 2000-541203	19990329 <--
	JP 3657515	B2	20050608		
	NZ 506553	A	20021126	NZ 1999-506553	19990329 <--
	ZA 2000004383	A	20021125	ZA 2000-4383	20000824 <--
	US 6521403	B1	20030218	US 2000-645470	20000824 <--
	US 2003129746	A1	20030710	US 2002-318200	20021213 <--
	US 6841353	B2	20050111		
PRAI	EP 1998-870060	A	19980327 <--		
	WO 1999-EP2154	W	19990329		
	US 2000-645470	A3	20000824		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 947525	ICM	C07K0016-10
	ICS	C12N0005-20; G01N0033-576
	ICA	C07K0014-08
	IPCI	C07K0016-10 [ICM,6]; C12N0005-20 [ICS,6]; G01N0033-576

[ICS,6]; C07K0014-08 [ICA,6]
ECLA C07K014/18F4; C07K016/10N1 <--
CA 2321179 IPCI C07K0016-10 [ICM,6]; C07K0014-18 [ICS,6]; C12N0005-20 [ICS,6]; G01N0033-576 [ICS,6] <--
WO 9950301 IPCI C07K0016-10 [ICM,6]; C12N0005-20 [ICS,6]; G01N0033-576 [ICS,6]; C07K0014-18 [ICS,6]
ECLA C07K014/18F4; C07K016/10N1 <--
AU 9936022 IPCI C07K0016-10 [ICM,6]; C12N0005-20 [ICS,6]; G01N0033-576 [ICS,6]; C07K0014-18 [ICS,6] <--
BR 9909026 IPCI C07K0016-10 [ICM,7]; C12N0005-20 [ICS,7]; G01N0033-576 [ICS,7] <--
TR 200002695 IPCI C07K0016-10 [ICM,7]; C12N0005-20 [ICS,7]; G01N0033-576 [ICS,7]; C07K0014-18 [ICS,7] <--
EP 1064309 IPCI C07K0016-10 [ICM,6]; C12N0005-20 [ICS,6]; G01N0033-576 [ICS,6]; C07K0014-18 [ICI,6] <--
JP 2002510038 IPCI G01N0033-576 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12N0005-10 [ICS,7]; C12P0021-08 [ICS,7]; C12N0015-02 [ICS,7]; C12R0001-91 [ICS,7] <--
NZ 506553 IPCI C07K0016-10 [ICM,7]; C12N0005-20 [ICS,7]; G01N0033-576 [ICS,7] <--
ZA 2000004383 IPCI C07K [ICM,7]; C12N [ICS,7]; G01N [ICS,7] <--
US 6521403 IPCI C12Q0001-70 [ICM,7]; G01N0033-53 [ICS,7]; A61K0039-395 [ICS,7]; A61K0039-42 [ICS,7]; A61K0039-29 [ICS,7]
IPCR C07K0014-005 [I,C]; C07K0014-18 [I,A]; C07K0016-08 [I,C]; C07K0016-10 [I,A]
NCL 435/005.000; 424/141.100; 424/142.100; 424/143.100; 424/147.100; 424/159.100; 424/228.100; 435/007.100; 435/007.200; 530/300.000
ECLA C07K014/18F4; C07K016/10N1 <--
US 2003129746 IPCI C12Q0001-70 [ICM,7]; C12N0005-16 [ICS,7]; C12P0021-08 [ICS,7]; C12N0005-06 [ICS,7]; C07K0016-00 [ICS,7]; G01N0033-564 [ICS,7]; C07K0005-00 [ICS,7]; C07K0007-00 [ICS,7]; C07K0017-00 [ICS,7]; A61K0038-00 [ICS,7]
IPCR C07K0014-005 [I,C]; C07K0014-18 [I,A]; C07K0016-08 [I,C]; C07K0016-10 [I,A]
NCL 435/339.000
ECLA C07K014/18F4; C07K016/10N1 <--

AB Antibodies to two new epitopes on the **HCV** envelope proteins were identified which allow routine detection of native **HCV** envelope antigens, in tissue or cells derived from the host. The new epitopes are: the **E1** region aa 307-**326** and the N-terminal hyper variable region of E2 aa 395-415. Surprisingly, we characterized an antibody which reacts with various sequences of the hypervariable domain of E2. Specific monoclonal antibodies directed against these epitopes and allowing routine detection of viral antigen are described.

ST **hepatitis C virus E1** E2 epitope; **HCV** epitope monoclonal antibody immunoassay kit; vaccine **hepatitis C** envelope antigen epitope

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**E1**; epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(E2; epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Blood products
Epitopes
Hepatitis C virus
Hybridoma
Liver
Test kits
Vaccines
(epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Antibodies
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Envelope proteins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**hepatitis C virus**; epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Animal cell
Animal tissue
(human; epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Diagnosis
(immunodiagnosis; epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Antibodies
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal; epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT Blood cell
(peripheral; epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT 224568-77-8, **HCV E1** (307-**326**) 245118-19-8
245118-20-1, **HCV** E2 (395-415)
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(epitopes of **hepatitis C** envelope antigens and specific antibodies directed against these epitopes for detection of **HCV viral** antigen in host tissue)

IT 224570-41-6 224570-44-9 224570-46-1 224570-59-6 224570-65-4
224570-67-6 224570-85-8 224571-09-9 224571-22-6 224571-73-7
245510-83-2 245674-65-1, PN: EP947525 TABLE: **1** unclaimed protein 245676-22-6, PN: EP947525 SEQID: 10 unclaimed protein
RL: PRP (Properties)

(unclaimed protein sequence; epitopes in viral **envelope** proteins and specific antibodies directed against these epitopes, use for detection of **HCV** viral antigen in host tissue)

IT 153299-67-3 224434-60-0 224434-61-1 224434-62-2 224434-63-3
224434-64-4 224434-66-6 245510-82-1 245510-84-3 245510-85-4
245510-86-5 245510-87-6 245510-88-7 245510-89-8 245510-90-1
245510-92-3
RL: PRP (Properties)
(unclaimed sequence; epitopes in viral envelope proteins and specific antibodies directed against these epitopes, use for detection of **HCV** viral antigen in host tissue)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Abbott Lab; WO 9213892 A 1992 HCAPLUS
(2) Boehringer Mannheim Gmbh; DE 4209215 A 1993 HCAPLUS
(3) Chan, S; J GENERAL VIROLOGY 1996, V77, P2531 HCAPLUS
(4) Deakin Res Ltd; WO 9405311 A 1994 HCAPLUS
(5) Hiramatsu, N; HEPATOLOGY 1992, V16(2), P306 MEDLINE
(6) Innogenetics Nv; WO 9318054 A 1993 HCAPLUS
(7) Maertens, G; AASLD ABSTRACTS HEPATOLOGY 1997, V26(4part2), P186A
(8) Us Health; WO 9640764 A 1996 HCAPLUS

L50 ANSWER 8 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:325967 HCAPLUS
DN 130:351222
ED Entered STN: 27 May 1999
TI Peptides derived from **hepatitis C virus** envelope proteins for diagnosis and vaccination
IN **Maertens, Geert**; Depla, Erik
PA **Innogenetics N.V., Belg.**
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07K0014-18
CC 15-2 (Immunochemistry)
Section cross-reference(s): **1**, 10

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9924466	A2	19990520	WO 1998-EP7105	19981106 <--
	WO 9924466	A3	19990715		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2305847	AA	19990520	CA 1998-2305847	19981106 <--
	AU 9915609	A1	19990531	AU 1999-15609	19981106 <--
	AU 752131	B2	20020905		
	EP 1028972	A2	20000823	EP 1998-959858	19981106 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001522599	T2	20011120	JP 2000-520474	19981106 <--
	US 6855318	B1	20050215	US 2000-566266	20000505 <--
	US 2004126754	A1	20040701	US 2003-685435	20031016 <--
PRAI	EP 1997-870179	A	19971106 <--		

WO 1998-EP7105 W 19981106 <--
US 2000-566266 A3 20000505

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9924466	ICM	C07K0014-18
	IPCI	C07K0014-18 [ICM,6]
	ECLA	C07K014/18F4 <--
CA 2305847	IPCI	C07K0014-18 [ICM,6]; A61K0039-29 [ICS,6]; C12N0015-51 [ICS,6]; G01N0033-68 [ICS,6] <--
AU 9915609	IPCI	C07K0014-18 [ICM,6] <--
EP 1028972	IPCI	C07K0014-18 [ICM,6] <--
JP 2001522599	IPCI	C12N0015-09 [ICM,7]; A61K0039-29 [ICS,7]; C07K0014-18 [ICS,7]; C12P0021-08 [ICS,7]; G01N0033-576 [ICS,7] <--
US 6855318	IPCI	A61K0039-00 [ICM,7]; A61K0039-29 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-536 [ICS,7]; C12N0015-09 [ICS,7]
	NCL	424/189.100; 424/228.100; 435/005.000; 435/007.100; 435/007.920; 435/069.100; 435/069.300; 514/002.000
	ECLA	C07K014/18F4 <--
US 2004126754	IPCI	C12Q0001-70 [ICM,7]; C07K0016-08 [ICS,7]; C07K0014-02 [ICS,7]
	NCL	435/005.000
	ECLA	C07K014/18F4 <--

AB The authors disclose that multimer peptides (e.g., 30- to 45-mer peptides) derived from **hepatitis C virus** envelope proteins, in contrast to shorter peptides produced in E. coli, react with the majority of anti-**HCV** antibodies present in patient sera. In addition, the authors disclose a peptide from the **E1** protein of **hepatitis** G **virus** that reacts with antibodies from **hepatitis C** sera. The peptides may be useful for diagnosis of, and to vaccinate against, an infection with **hepatitis C virus**.

ST peptide **hepatitis C virus** envelope protein antibody diagnosis vaccine

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**E1**; peptides of envelope proteins of **hepatitis C virus** for disease diagnosis and therapy)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E2; peptides of envelope proteins of **hepatitis C virus** for disease diagnosis and therapy)

IT Peptides, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(cyclic, with biotin; of envelope proteins of **hepatitis C virus**)

IT Plasmid vectors
(for expression of peptides of envelope proteins of **hepatitis C virus**)

IT Vaccines
(for **hepatitis C virus** using peptides of envelope proteins)

IT Immunization
(genetic; with plasmid vector expressing peptides of envelope proteins of **hepatitis C virus**)

IT Antibodies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(monoclonal; to peptides of envelope proteins of **hepatitis C virus**)

IT Immunoassay
(of antibodies to **hepatitis C virus** with peptides of envelope proteins)
IT Peptides, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(of envelope proteins of **hepatitis C virus**)
IT Bioassay
(of modulators of antibody binding to peptides of **hepatitis C virus** envelope proteins)
IT **Hepatitis** GB **virus C**/G
(peptide of **E1** protein recognized by human antibodies)
IT **Antiviral** agents
(peptides of envelope proteins of **hepatitis C virus** as)
IT **Hepatitis C virus**
(peptides of envelope proteins of **hepatitis C virus** in relation to diagnosis and therapy)
IT Peptides, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(reaction products, with biotin; of envelope proteins of **hepatitis C virus**)
IT Diagnosis
(serodiagnosis; of antibodies to **hepatitis C virus** and **viral** infection with peptides of envelope proteins)
IT Antibodies
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(to peptides of envelope proteins of **hepatitis C virus**)
IT Infection
(**viral**; peptides of envelope proteins of **hepatitis C virus** in relation to diagnosis of)
IT 224434-59-7 224434-60-0 224434-61-1 224570-26-7 224570-41-6
224570-56-3 224570-57-4 224570-59-6 224570-60-9 224570-61-0
224570-63-2 224570-64-3 224570-66-5 224570-67-6 224570-98-3
224571-09-9 224571-12-4
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(of **E1** protein of **hepatitis C virus** in relation to diagnosis and therapy)
IT 224570-20-1
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(of **E1** protein of hepatitis G virus in relation to diagnosis and therapy)
IT 224434-62-2 224434-63-3 224434-64-4 224434-65-5 224434-66-6
224434-67-7 224434-68-8 224434-69-9 224434-70-2 224570-44-9
224570-46-1 224570-62-1 224570-65-4 224570-85-8 224570-86-9
224570-87-0 224570-96-1 224571-22-6 224571-28-2 224571-73-7
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(of E2 protein of **hepatitis C virus** in

relation to diagnosis and therapy)

L50 ANSWER 9 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:325806 HCAPLUS
DN 130:349392
ED Entered STN: 27 May 1999
TI Diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**
IN **Maertens, Geert**; Depla, Erik
PA **Innogenetics N.V., Belg.**
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K0038-17
ICS G01N0033-569; G01N0033-50; C07K0014-18; C07K0001-22; C12N0007-00; A61L0002-00; A61K0039-29
CC 9-11 (Biochemical Methods)
Section cross-reference(s): **63**
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9924054	A1	19990520	WO 1998-EP7107	19981106 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2305715	AA	19990520	CA 1998-2305715	19981106 <--
AU 9915610	A1	19990531	AU 1999-15610	19981106 <--
AU 756303	B2	20030109		
EP 1028742	A1	20000823	EP 1998-959859	19981106 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001522809	T2	20011120	JP 2000-520142	19981106 <--
US 6670114	B1	20031230	US 2000-564951	20000505 <--
PRAI EP 1997-870178	A	19971106 <--		
WO 1998-EP7107	W	19981106 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9924054	ICM	A61K0038-17
	ICS	G01N0033-569; G01N0033-50; C07K0014-18; C07K0001-22; C12N0007-00; A61L0002-00; A61K0039-29
	IPCI	A61K0038-17 [ICM,6]; G01N0033-569 [ICS,6]; G01N0033-50 [ICS,6]; C07K0014-18 [ICS,6]; C07K0001-22 [ICS,6]; C12N0007-00 [ICS,6]; A61L0002-00 [ICS,6]; A61K0039-29 [ICS,6]
	ECLA	A61K038/17A2; C07K014/18F4 <--
CA 2305715	IPCI	A61K0038-17 [ICM,6]; A61L0002-00 [ICS,6]; C12N0007-00 [ICS,6]; C07K0014-18 [ICS,6]; C07K0001-22 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-50 [ICS,6]; G01N0033-569 [ICS,6] <--
AU 9915610	IPCI	A61K0038-17 [ICM,6]; G01N0033-569 [ICS,6]; G01N0033-50 [ICS,6]; C07K0001-22 [ICS,6]; C12N0007-00 [ICS,6]; A61L0002-00 [ICS,6]; A61K0039-29 [ICS,6]; C07K0014-18 [ICS,6] <--

EP 1028742 IPCI A61K0038-17 [ICM,6]; G01N0033-569 [ICS,6]; G01N0033-50 [ICS,6]; C07K0014-18 [ICS,6]; C07K0001-22 [ICS,6]; C12N0007-00 [ICS,6]; A61L0002-00 [ICS,6]; A61K0039-29 [ICI,6] <--

JP 2001522809 IPCI A61K0038-00 [ICM,7]; A61P0031-20 [ICS,7]; C07K0001-22 [ICS,7]; C07K0014-18 [ICS,7]; C07K0014-47 [ICS,7]; C07K0014-775 [ICS,7]; C12N0007-00 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-576 [ICS,7]; A61K0039-29 [ICS,7]; A61L0002-16 [ICS,7] <--

US 6670114 IPCI C12Q0001-70 [ICM,7]
NCL 435/005.000; 435/007.800; 435/007.930
ECLA A61K038/17A2; C07K014/18F4 <--

AB The finding that the human proteins annexin V, tubulin and apolipoprotein B bind to the **hepatitis C virus** envelope proteins **E1** and/or E2 and the usage of these human proteins to diagnose and treat an infection with **hepatitis C virus** are described. The usage of the latter proteins to enrich **HCV** envelope proteins and mols. which inhibit binding of **HCV** to these human proteins, as well as vaccines employing the **E1** and/or E2 binding domains are also disclosed.

ST **hepatitis C virus** envelope protein binding diagnostic

IT Apolipoproteins
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(B; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Animal cell line
(Daudi; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Envelope proteins
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(**E1** and E2; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Animal tissue culture
(**HCV** cultivation in; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Animal cell line
(Hep G2; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Animal cell line
(Molt; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Annexins
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(V; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Diagnosis
(agents; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT **Antiviral** agents
B cell (lymphocyte)

Blood analysis
Hepatitis C virus
Macrophage
T cell (lymphocyte)
Test kits
Ultracentrifugation
(diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Tubulins
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Antibodies
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(envelope proteins **E1** or E2 specific; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Liver
(hepatocyte; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Liver, neoplasm
(hepatoma; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Lipoproteins
RL: ANT (Analyte); ANST (Analytical study)
(low-d.; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT Purification
(of **HCV** proteins; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

IT 224568-77-8P 224628-21-1P **224628-22-2P** 224628-24-4P
224631-73-6P 224631-83-8P
RL: ARU (Analytical role, unclassified); BOC (Biological occurrence); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process)
(amino acid sequence; diagnostic and medicinal use of host-derived proteins binding **hepatitis C virus**)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Depla, E; Hepatology 1998, V28(4 Part 2), P272A
(2) Innogenetics NV; WO 9604385 A 1996 HCAPLUS
(3) Melki, R; Virology 1994, V202, P339 HCAPLUS
(4) NV Innogenetics SA; WO 9401554 A 1994 HCAPLUS
(5) Thomssen, R; DE 4206574 C 1993 HCAPLUS

L50 ANSWER 10 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:100732 HCAPLUS
DN 130:150152
ED Entered STN: 16 Feb 1999
TI Peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications
IN Brechot, Christian; Kremsdorf, Dina; Porchon, Colette
PA Institut Pasteur, Fr.

SO U.S., 45 pp., Division of U.S. Ser. No. 965,285.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K0038-04
ICS A61K0039-29
INCL 424228100
CC 6-3 (General Biochemistry)
Section cross-reference(s): 10, 15
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 5866139	A	19990202	US 1995-483695	19950607	<--
	US 5879904	A	19990309	US 1993-965285	19930318	<--
	US 5919454	A	19990706	US 1995-487231	19950607	<--
PRAI	US 1993-965285	A3	19930318	<--		
	FR 1991-6882	A	19910606	<--		
	WO 1992-FR501	W	19920604	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
US 5866139	ICM	A61K0038-04	
	ICS	A61K0039-29	
	INCL	424228100	
	IPCI	A61K0038-04 [ICM,6]; A61K0039-29 [ICS,6]	
	NCL	424/228.100; 424/184.100; 424/185.100; 424/278.100; 530/324.000; 530/328.000; 530/329.000; 530/350.000; 530/812.000	
	ECLA	C07K014/18F4	<--
US 5879904	IPCI	C07H0021-04 [ICM,6]; A61K0031-00 [ICS,6]	
	NCL	435/069.100; 435/069.300; 435/071.100; 435/252.300; 435/320.100; 536/023.100; 536/023.720	
	ECLA	C07K014/18F4	<--
US 5919454	IPCI	G01N0033-53 [ICM,6]; A61K0039-29 [ICS,6]	
	NCL	424/161.100; 424/139.100; 424/186.100; 424/189.100; 435/007.100; 435/069.300; 435/287.200; 435/326.000; 435/331.000; 435/339.000; 435/810.000; 530/387.100; 530/388.100; 530/388.300; 530/389.400; 530/391.100; 530/808.000	
	ECLA	C07K014/18F4	<--

AB This invention relates to purified **hepatitis C virus** (**HCV**) **E1** peptides, immunogenic compns. comprising purified **HCV E1** peptides, and a diagnostic kit for detecting **HCV E1**-specific antibodies. CDNA sequences from **hepatitis C virus** isolate **E1** in the 5' noncoding region, the **E1** region, the E2-NS1 region, and the genes NS3-NS4 region were determined Peptides encoded by these regions may be used to diagnose **hepatitis C virus** infection or may be used as a vaccine. Comparison with existing Japanese and American isolates indicates the sequence of this isolate is strongly conserved in the 5' noncoding region, and exhibits important variability in the region coding for the structural regions of **E1** and E2-NS1.

ST **hepatitis C virus E1** peptide diagnosis vaccine

IT Proteins, specific or class
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**E1**; peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic

applications)
IT Proteins, specific or class
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(E2; peptides of **hepatitis C virus** **E1** isolate and diagnostic and therapeutic applications)
IT Proteins, specific or class
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NS1 (nonstructural, 1); peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications)
IT Proteins, specific or class
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NS3 (nonstructural, 3); peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications)
IT Proteins, specific or class
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NS4 (nonstructural, 4); peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications)
IT **Hepatitis C virus**
Protein sequences
Vaccines
(peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications)
IT Peptides, biological studies
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications)
IT 145787-87-7
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**E1** peptide; peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications)
IT 145787-89-9 145787-91-3
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NS1 peptide; peptides of **hepatitis C virus** **E1** isolate and diagnostic and therapeutic applications)
IT 146889-26-1, Protein NS 1 (**hepatitis C virus** strain **E1** reduced) 147605-46-7, Protein **E 1** (**hepatitis C virus** strain **E1** fragment reduced) 147605-47-8
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; peptides of **hepatitis C virus E1** isolate and diagnostic and therapeutic applications)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; EP 0318216 1989 HCAPLUS
(2) Anon; WO 8904669 1989 HCAPLUS
(3) Anon; EP 0398748 1990 HCAPLUS
(4) Anon; WO 9000597 1990 HCAPLUS

(5) Anon; WO 9011089 1990 HCAPLUS
(6) Anon; WO 9221759 1992 HCAPLUS
(7) Choo; Science 1989, V244, P359 HCAPLUS
(8) Okamoto; Japan J Exp Med 1990, V60(3), P167 HCAPLUS
(9) Weiner; Virology 1991, V180, P842 HCAPLUS

L50 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:747597 HCAPLUS
DN 130:11295
ED Entered STN: 25 Nov 1998
TI Intracellular production of truncated hepatitis C **E1** and E2 proteins and their use in immunodiagnosis
IN Hougton, Michael; Choo, Qui-lim; Abrignani, Sergio; Chien, David; Selby, Mark; Glazer, Edward
PA Chiron Corp., USA
SO PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-40
ICS C07K0014-18; A61K0039-29; G01N0033-50
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 9
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9850556	A2	19981112	WO 1998-US9097	19980506	<--
	WO 9850556	A3	19990211			
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
	CA 2288374	AA	19981112	CA 1998-2288374	19980506	<--
	AU 9874716	A1	19981127	AU 1998-74716	19980506	<--
	EP 980434	A1	20000223	EP 1998-922096	19980506	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
	JP 2002504810	T2	20020212	JP 1998-548360	19980506	<--
	US 6521423	B1	20030218	US 2000-693596	20001019	<--
	US 2004001854	A1	20040101	US 2003-371040	20030218	<--
PRAI	US 1997-45675P	P	19970506	<--		
	US 1998-73406	B1	19980506	<--		
	WO 1998-US9097	W	19980506	<--		
	US 2000-693596	A1	20001019			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9850556	ICM	C12N0015-40	
	ICS	C07K0014-18; A61K0039-29; G01N0033-50	
	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-50 [ICS,6]	
	ECLA	C07K014/18F4	<--
CA 2288374	IPCI	C07K0014-18 [ICM,6]; C07K0001-22 [ICS,6]; A61K0039-29 [ICS,6]; C12N0015-40 [ICS,6]; G01N0033-50 [ICS,6]	<--
AU 9874716	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-50 [ICS,6]	<--

EP 980434 IPCI C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-50 [ICS,6] <--
JP 2002504810 IPCI C12N0015-09 [ICM,7]; A61K0039-29 [ICS,7]; A61P0031-14 [ICS,7]; C07K0001-22 [ICS,7]; C07K0014-18 [ICS,7]; C12P0021-02 [ICS,7]; G01N0033-576 [ICS,7] <--
US 6521423 IPCI C12P0021-00 [ICM,7]; C12N0007-02 [ICS,7]; C12N0015-08 [ICS,7]; C12Q0001-70 [ICS,7]; G01N0033-52 [ICS,7]
NCL 435/069.100; 435/005.000; 435/007.100; 435/007.200; 435/007.210; 435/070.100; 435/091.420; 435/235.100; 435/239.000; 435/455.000; 530/350.000; 977/DIG.001
ECLA C07K014/18F4 <--
US 2004001854 IPCI A61K0039-29 [ICM,7]; C07K0014-02 [ICS,7]
NCL 424/189.100
ECLA C07K014/18F4 <--

AB Methods for obtaining recombinantly produced, C-terminally truncated, **E1** and E2 polypeptides from cell lysates are disclosed. The intracellularly expressed truncated mols. display improved biol. properties as compared to their secreted counterparts and are useful for immunodiagnosis.

ST **hepatitis C virus E1** E2 protein
recombinant truncated immunodiagnosis

IT Proteins, specific or class
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1**; intracellular production of truncated hepatitis C **E1** and E2 proteins and their use in immunodiagnosis)

IT Proteins, specific or class
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(E2; intracellular production of truncated hepatitis C **E1** and E2 proteins and their use in immunodiagnosis)

IT Agglutinins and Lectins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(Galanthus nivalus, agarose conjugate with, **E1**/E2 proteins purification with affinity column of; intracellular production of truncated hepatitis C **E1** and E2 proteins and their use in immunodiagnosis)

IT Diagnosis
(immunodiagnosis; intracellular production of truncated hepatitis C **E1** and E2 proteins and their use in immunodiagnosis)

IT **Hepatitis C virus**
Molecular cloning
(intracellular production of truncated **hepatitis C E1** and E2 proteins and their use in immunodiagnosis)

IT Protein sequences
(of truncated hepatitis C **E1** and E2 proteins)

IT 216015-16-6P, 1-168-**E1** Protein (**hepatitis C virus**) 216015-17-7P, 1-271-E2 Protein (**hepatitis C virus**) 216015-18-8P, 1-277-E2 Protein (**hepatitis C virus**) 216015-19-9P, 1-331-E2 Protein (**hepatitis C virus**) 216015-43-9DP, **E1** Protein (**hepatitis C virus** type 1), **C**-terminal deletion derivs. of 216015-44-0DP, E2 Protein (**hepatitis C virus** type 1), **C**-terminal deletion derivs. of
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES

(Uses)
(amino acid sequence; intracellular production of truncated **hepatitis C E1** and E2 proteins and their use in immunodiagnosis)

IT 9012-36-6D, Agarose, conjugates with Galanthus nivalus agglutinin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(purification of **E1**/E2 proteins with affinity column of; intracellular production of truncated hepatitis C **E1** and E2 proteins and their use in immunodiagnosis)

L50 ANSWER 12 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:612017 HCAPLUS
DN 129:229680
ED Entered STN: 28 Sep 1998
TI Capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection
IN Barban, Veronique
PA Pasteur Merieux Serums and Vaccins, Fr.
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM A61K0039-29
ICS C07K0014-18
CC 15-2 (Immunochemistry)
Section cross-reference(s): **63**

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9839030	A1	19980911	WO 1998-FR448	19980306	<--
	W: AU, CA, JP, US					
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	FR 2760367	A1	19980911	FR 1997-2887	19970306	<--
	FR 2760367	B1	19990430			
	CA 2283076	AA	19980911	CA 1998-2283076	19980306	<--
	AU 9868398	A1	19980922	AU 1998-68398	19980306	<--
	AU 745442	B2	20020321			
	EP 1017418	A1	20000712	EP 1998-913848	19980306	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
	NZ 337138	A	20010427	NZ 1998-337138	19980306	<--
	JP 2001513807	T2	20010904	JP 1998-538243	19980306	<--
	US 6284249	B1	20010904	US 1999-388874	19990902	<--
	US 2002034734	A1	20020321	US 2001-916359	20010726	<--
	US 6538123	B2	20030325			
PRAI	FR 1997-2887	A	19970306	<--		
	WO 1998-FR448	W	19980306	<--		
	US 1999-388874	A3	19990902			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9839030	ICM	A61K0039-29	
	ICS	C07K0014-18	
	IPCI	A61K0039-29 [ICM,6]; C07K0014-18 [ICS,6]	
	ECLA	A61K039/29; C07K014/18F4	<--
FR 2760367	IPCI	A61K0039-29 [ICM,6]	
	ECLA	A61K039/29; C07K014/18F4	<--
CA 2283076	IPCI	A61K0039-29 [ICM,6]; C07K0014-18 [ICS,6]	<--
AU 9868398	IPCI	A61K0039-29 [ICM,6]; C07K0014-18 [ICS,6]	<--

EP 1017418	IPCI	A61K0039-29 [ICM,6]; C07K0014-18 [ICS,6] <--
NZ 337138	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7] <--
JP 2001513807	IPCI	A61K0039-29 [ICM,7]; A61K0031-711 [ICS,7]; A61K0038-00 [ICS,7]; A61P0001-16 [ICS,7]; A61P0031-14 [ICS,7]; A61P0035-00 [ICS,7]; A61P0037-04 [ICS,7]; C07K0014-18 [ICS,7]; C12N0015-09 [ICS,7] <--
US 6284249	IPCI	A61K0039-00 [ICM,7]
	NCL	424/192.100; 424/185.100; 424/186.100; 424/189.100; 435/005.000; 435/091.320; 435/173.300; 435/236.000; 435/320.100; 514/934.000; 530/300.000; 530/350.000; 530/826.000; 536/023.400; 536/023.720
	ECLA	A61K039/29; C07K014/18F4 <--
US 2002034734	IPCI	C07H0021-04 [ICM,7]; C12P0021-06 [ICS,7]; C12N0001-20 [ICS,7]; C12N0015-00 [ICS,7]; C12N0015-09 [ICS,7]; C12N0015-63 [ICS,7]; C12N0015-70 [ICS,7]; C12N0015-74 [ICS,7]; C12N0005-00 [ICS,7]; C12N0005-02 [ICS,7]; C07K0001-00 [ICS,7]; C07K0014-00 [ICS,7]; C07K0017-00 [ICS,7]; C12Q0001-70 [ICS,7]; C12P0019-34 [ICS,7]; C12N0013-00 [ICS,7]; A61K0039-00 [ICS,7]; A61K0039-12 [ICS,7]; A61K0039-29 [ICS,7]; C12N0007-04 [ICS,7]
	NCL	435/005.000
	ECLA	A61K039/29; C07K014/18F4 <--

AB A pharmaceutical composition is provided for treating or preventing C hepatitis (**HCV**)-induced infections, which, in a preferred embodiment, comprises as main active principle, (i) a fusion polypeptide, including the **HCV** capsid polypeptide (C191) and polypeptide coat (**E1**) and in which at least one cleavage site 173/174 and 191/ **192** has been made inoperative by mutation; (ii) an equimolar mixture of the C191 polypeptide of which the cleavage site 173/174 has been made inoperative and of the **E1** polypeptide (mixture equivalent to the fusion polypeptide); or (iii) a DNA mol. coding for the fusion polypeptide. Products (i) to (iii) are characterized in that the C191 element is incapable of regulating the functioning of the genes, in particular of causing them to interact. Such a composition can also include any form equivalent to the products described above.

ST capsid **E1** protein vaccine **hepatitis C**; **HCV virus** vaccine capsid **E1** protein; fusion capsid **E1** protein **HCV** vaccine; DNA capsid **E1** fusion vaccine **HCV**

IT Envelope proteins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(E, **E1**; capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)

IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**E1**; capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)

IT Transcriptional regulation
(activation; capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)

IT **Antiviral** agents
Drug delivery systems
Hepatitis C virus
Mutation
Vaccines
(capsid protein- and **E1** protein-based vaccine composition for

preventing or treating **C hepatitis** infection)
IT Fusion proteins (chimeric proteins)
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)
IT DNA
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(capsid, C; capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)
IT Gene
(regulation; capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)
IT Mutation
(substitution; capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)
IT 9001-92-7, Protease
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(capsid protein- and **E1** protein-based vaccine composition for preventing or treating C hepatitis infection)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Behringwerke; EP 0484787 A 1992 HCAPLUS
(2) Bukh, J; PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA 1994, V91(17), P8239 HCAPLUS
(3) Hussy, P; VIROLOGY 1996, V224(1), P93 MEDLINE
(4) Liu, Q; JOURNAL OF VIROLOGY 1997, V71(1), P657 HCAPLUS

L50 ANSWER 13 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:560524 HCAPLUS
DN 127:218752
ED Entered STN: 04 Sep 1997
TI Serological and molecular analysis of **hepatitis C virus envelope** regions **1** and 2 during acute and chronic infections in chimpanzees
AU Van Doorn, Leen-Jan; Van Hoek, Kitty; De Martinoff, Guy; **Bosman, Fons**; Stuyver, Lieven; Kos, Ton; Frantzen, Inge; Sillekens, Peter; **Maertens, Geert**; Quint, Wim
CS Delft Diagnostic Laboratory, Delft, 2600 GA, Neth.
SO Journal of Medical Virology (**1997**), 52(4), 441-450
CODEN: JMVIDB; ISSN: 0146-6615
PB Wiley-Liss
DT Journal
LA English
CC 14-3 (Mammalian Pathological Biochemistry)
AB Acute and chronic **Hepatitis C virus** infections were investigated retrospectively in chimpanzees that had been infected from a single source. Anti-**E1** and anti-E2 were detected in two of three chimpanzees with a chronic infection, but were first detected 1 to 2 yr after inoculation. Sequence evolution of the **E1** region in three animals over a period of 9-11 yr revealed a

101 TISPRRHETV QDCNCSIYPG HITGHRMAWD MMMNW

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 144:35284

L45 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2006 ACS on STN
RN **763256-03-7** REGISTRY
CN **192-326-Protein E1s (hepatitis C virus) (9CI)** (CA INDEX NAME)
OTHER NAMES:
CN 1: PN: US20040185061 SEQID: 1 claimed protein
FS PROTEIN SEQUENCE
SQL 135

PATENT ANNOTATIONS (PNTE):

Sequence Source	Patent Reference
Not Given	US2004185061 claimed SEQID 1

SEQ 1 YEVRNVSGMY HVTNDCSNSS IVYEAADMIM HTPGCVPCVR ENNSSRCWVA
51 LTPTLAARNA SVPTTTIRRH VDLLVGAAAF CSAMYVGDLC GSVFLVSQLF
101 TISPRRHETV QDCNCSIYPG HITGHRMAWD MMMNW

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PRP (Properties); USES (Uses)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:294670

L45 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2006 ACS on STN
RN 224628-22-2 REGISTRY
CN **192-326-Envelope protein E1 (human hepatitis C virus) (9CI)** (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 135

SEQ 1 YEVRNVSGIY HVTNDCSNSS IVYEAADMIM HTPGCVPCVR ENNSSRCWVA
51 LTPTLAARNA SVPTTTIRRH VDLLVGAAAF CSAMYVGDLC GSVFLVSQLF
101 TISPRRHETV QDCNCSIYPG HITGHRMAWD MMMNW
MF Unspecified

protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening
IN Bosman, Alfons; Depla, Erik; **Maertens, Geert**
PA **Innogenetics N.V., Belg.**
SO U.S. Pat. Appl. Publ., 39 pp., Cont.-in-part of U.S. Pat. Appl. 2002 182,706.
CODEN: USXXCO
DT Patent
LA English
IC ICM C12Q0001-70
ICS A61K0039-29; C07K0014-02
INCL 424189100; 435005000; 530350000
CC 15-2 (Immunochemistry)
Section cross-reference(s): **1**, 9, **63**
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004185061	A1	20040923	US 2004-825219	20040416 <--
	WO 9604385	A2	19960215	WO 1995-EP3031	19950731 <--
	WO 9604385	A3	19960307		
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	EP 1211315	A1	20020605	EP 2002-3643	19950731 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	US 6150134	A	20001121	US 1996-612973	19960311 <--
	US 2002182706	A1	20021205	US 2001-973025	20011010 <--
	ZA 2002003169	A	20030722	ZA 2002-3169	20020422
	JP 2004222729	A2	20040812	JP 2004-51709	20040226 <--
PRAI	EP 1994-870132	A	19940729 <--		
	WO 1995-EP3031	W	19950731 <--		
	US 1996-612973	A3	19960311 <--		
	US 1997-928017	B1	19970911 <--		
	EP 1999-870225	A	19991027		
	US 1999-795289	A1	19991207		
	US 2001-973025	A2	20011010		
	EP 1995-930434	A3	19950731 <--		
	JP 1996-506189	A3	19950731 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004185061	ICM	C12Q0001-70
	ICS	A61K0039-29; C07K0014-02
	INCL	424189100; 435005000; 530350000
	IPCI	C12Q0001-70 [ICM,7]; A61K0039-29 [ICS,7]; C07K0014-02 [ICS,7]
	NCL	424/189.100
	ECLA	C07K014/18F4; C07K016/10N1 <--
WO 9604385	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10 [ICS,6]; C12Q0001-70 [ICS,6]; G01N0033-569 [ICS,6]
	ECLA	C07K014/18F4 <--
EP 1211315	IPCI	C12N0015-40 [ICM,6]; C12N0005-10 [ICS,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-569 [ICS,6]
	ECLA	C07K014/18F4 <--
US 6150134	IPCI	C12N0015-09 [ICM,7]; A61K0039-29 [ICS,7]
	NCL	435/069.300; 424/228.100; 435/069.100; 435/235.100;

		435/803.000; 530/350.000
	ECLA	C07K014/18F4 <--
US 2002182706	IPCI	C12N0007-02 [ICM,7]; C12P0021-02 [ICS,7]
	NCL	435/239.000
	ECLA	C07K014/18F4 <--
ZA 2002003169	IPCI	C07K [ICM,7]; C12N [ICS,7]; A61K [ICS,7]; A61P [ICS,7]
JP 2004222729	IPCI	C12N0015-09 [ICM,7]; A61K0038-00 [ICS,7]; A61K0039-00 [ICS,7]; A61K0039-395 [ICS,7]; A61P0001-16 [ICS,7]; A61P0031-12 [ICS,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12N0001-15 [ICS,7]; C12N0001-19 [ICS,7]; C12N0001-21 [ICS,7]; C12N0005-10 [ICS,7]; C12P0021-08 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-576 [ICS,7]; G01N0033-577 [ICS,7]; A61K0039-29 [ICS,7]
	FTERM	4B024/AA01; 4B024/AA14; 4B024/BA33; 4B024/BA51; 4B024/CA04; 4B024/DA01; 4B024/DA02; 4B024/DA05; 4B024/DA11; 4B024/EA02; 4B024/EA04; 4B024/GA11; 4B024/HA03; 4B024/HA08; 4B024/HA15; 4B064/AG27; 4B064/AG33; 4B064/CA02; 4B064/CA05; 4B064/CA10; 4B064/CA11; 4B064/CA12; 4B064/CA19; 4B064/CA20; 4B064/CC24; 4B064/CE11; 4B064/CE12; 4B064/DA01; 4B064/DA15; 4B065/AA01X; 4B065/AA26X; 4B065/AA58X; 4B065/AA87X; 4B065/AA96X; 4B065/AA96Y; 4B065/AB01; 4B065/AB02; 4B065/AC14; 4B065/BA02; 4B065/BA08; 4B065/CA24; 4B065/CA25; 4B065/CA45; 4B065/CA46; 4C084/AA02; 4C084/AA06; 4C084/AA07; 4C084/BA01; 4C084/BA08; 4C084/BA22; 4C084/BA23; 4C084/CA01; 4C084/MA01; 4C084/NA14; 4C084/ZA752; 4C084/ZB052; 4C084/ZB332; 4C085/AA03; 4C085/AA13; 4C085/AA14; 4C085/BA92; 4C085/CC08; 4C085/CC32; 4C085/DD62; 4C085/DD88; 4C085/EE06; 4C085/FF02; 4C085/FF03; 4C085/FF13; 4C085/FF20; 4C085/GG01; 4H045/AA10; 4H045/AA11; 4H045/AA20; 4H045/AA30; 4H045/BA09; 4H045/CA02; 4H045/DA76; 4H045/DA86; 4H045/EA31; 4H045/EA53; 4H045/FA74; 4H045/GA26; 4H045/GA45 <--

AB The present invention relates to **HCV** proteins in which cysteine residues are reversibly protected during purification Eventually, this purification procedure results in **HCV** proteins with biol. activity and a native-like protein conformation, which present corresponding epitopes. The present invention pertains also to drug screening methods using these **HCV** proteins, and diagnostic and therapeutic applications, such as vaccines and drugs.

ST **hepatitis C virus E1s** E1p protein epitope vaccine antibody; **E1** protein **HCV** vaccine antibody immunodiagnosis immunotherapy drug screening

IT **Hepatitis**
(**C; hepatitis C virus**
E1s and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Proteins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**E1; hepatitis C virus**
E1s and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Proteins
RL: ARU (Analytical role, unclassified); BSU (Biological study,

unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(E1p; **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Proteins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**E1s; hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(NS3 (nonstructural, 3); **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Drugs
(anti-**HCV** screening; **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Protein motifs
(antigenic domain; **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Drug screening
Epitopes
Escherichia coli
Hepatitis C virus
Immunotherapy
Protein sequences
Vaccines
(**hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Antibodies and Immunoglobulins
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Fusion proteins (chimeric proteins)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Infection
(**hepatitis C; hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Diagnosis
(immunodiagnosis; **hepatitis C virus** **E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Epitopes
(mapping; **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Antibodies and Immunoglobulins
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(monoclonal; **hepatitis C virus** **E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Redox reaction
(reversible Cys status; **hepatitis C virus** **E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Proteins
RL: BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(separation, **HCV E1s**; **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Thiols, biological studies
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(stabilizing agent; **hepatitis C virus** **E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT Stabilizing agents
(thiols; **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT **763256-03-7, 192-326**-Protein **E1s** (**hepatitis C virus**)
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; **hepatitis C virus** **E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT 166673-23-0 763105-38-0 763155-85-7 763155-86-8 763155-87-9
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

IT 9055-15-6, Oxidoreductase
RL: ANT (Analyte); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(modulating compds.; **hepatitis C virus** **E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)
IT 52-90-4, L-Cysteine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(reversible redox status; **hepatitis C virus** **E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)
IT 763256-11-7
RL: PRP (Properties)
(unclaimed protein sequence; **hepatitis C virus E1s** and E1p protein epitopes for detecting anti-**HCV** antibodies, as vaccines against **hepatitis C** and for drug screening)

L50 ANSWER 3 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:402741 HCAPLUS
DN 140:373891
ED Entered STN: 19 May 2004
TI Recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use
IN **Maertens, Geert; Bosman, Fons; Buyse, Marie Ange**
PA Belg.
SO U.S. Pat. Appl. Publ., 162 pp., Cont.-in-part of U.S. Ser. No. 355,040.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07K0014-02
ICS A61K0039-29; C12P0021-02; C12N0001-18; C12N0015-09; C12N0001-14; C12N0001-16; C07K0001-00; C07K0014-00; C07K0017-00
INCL 424189000; 435069000; 435254000; 530350000
CC 15-2 (Immunochemistry)
Section cross-reference(s): 3, 9, **63**
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 2003118603	A1	20030626	US 2001-995860	20011129	<--
	WO 9967285	A1	19991229	WO 1999-EP4342	19990623	<--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW					
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
	EP 1555270	A1	20050720	EP 2004-103826	19990623	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY					
	US 6635257	B1	20031021	US 1999-355040	19990723	<--
	ZA 2000007318	A	20030310	ZA 2000-7318	20001208	<--
	TR 200202169	T1	20040621	TR 2002-200202169	20020111	
	CN 1547588	A	20041117	CN 2002-800609	20020111	<--
	ZA 2002007272	A	20040213	ZA 2002-7272	20020910	

PRAI EP 1998-870142 A 19980624 <--
EP 1999-870033 A 19990222
WO 1999-EP4342 W 19990623
US 1999-355040 A2 19990723
US 2000-304194P P 20001201
US 2001-260669P P 20010111
US 2001-315768P P 20010830
EP 1999-929306 A3 19990623

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003118603	ICM	C07K0014-02
	ICS	A61K0039-29; C12P0021-02; C12N0001-18; C12N0015-09; C12N0001-14; C12N0001-16; C07K0001-00; C07K0014-00; C07K0017-00
	INCL	424189000; 435069000; 435254000; 530350000
	IPCI	C07K0014-02 [ICM]; A61K0039-29 [ICS]; C12P0021-02 [ICS]; C12N0001-18 [ICS]; C12N0015-09 [ICS]; C12N0001-14 [ICS]; C12N0001-16 [ICS]; C07K0001-00 [ICS]; C07K0014-00 [ICS]; C07K0017-00 [ICS]
	NCL	424/189.100
	ECLA	C07K014/18F4 <--
WO 9967285	IPCI	C07K0014-18 [ICM,6]; A61K0039-29 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6]
	ECLA	C07K014/18F4 <--
EP 1555270	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]
	ECLA	C07K014/18F4 <--
US 6635257	IPCI	A61K0039-29 [ICM,7]
	NCL	424/228.100; 424/185.100; 435/005.000; 435/069.100; 435/235.100; 530/350.000; 530/826.000
	ECLA	C07K014/18F4 <--
ZA 2000007318	IPCI	C07K [ICM,7]; A61K [ICS,7]; G01N [ICS,7] <--
TR 200202169	IPCI	C07K0014-005 [ICM,7]
CN 1547588	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; G01N0033-576 [ICS,7]; C12Q0001-70 [ICS,7]; C12N0015-40 [ICS,7] <--
ZA 2002007272	IPCI	C07K [ICM,7]

AB The present invention relates to a method for purifying recombinant **HCV** single or specific oligomeric envelope proteins selected from the group consisting of **E1** and/or E2 and/or **E1**/E2, characterized in that upon lysing the transformed host cells to isolate the recombinantly expressed protein a disulfide bond cleavage or reduction step is carried out with a disulfide bond cleavage agent. The present invention also relates to a composition isolated by such a method. The present invention also relates to the diagnostic and therapeutic application of these compns. Furthermore, the invention relates to the use of **HCV E1** protein and peptides for prognosing and monitoring the clin. effectiveness and/or clin. outcome of **HCV** treatment.

ST **hepatitis C virus E1** E2 envelope protein therapy diagnosis; vaccine **HCV** recombinant **E1** E2 envelope peptide epitope

IT **Hepatitis**
(**C**, chronic; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Proteins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1**; recombinant **hepatitis C**

virus E1 and E2 envelope proteins for diagnostic and therapeutic use)

IT Envelope proteins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1s**; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Proteins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(E2; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT T cell (lymphocyte)
(activation; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Immunostimulants
(adjuvants; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Structure-activity relationship
(antigen-binding; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Disulfide group
(cleavage agent; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Reagents
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(disulfide bond-cleavage; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Liver, disease
(fibrosis; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Fibrosis
(hepatic; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Antibodies and Immunoglobulins
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(humanized; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Diagnosis
(immunodiagnosis; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Animal cell
(mammalian; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Epitopes
(mapping; recombinant **hepatitis C virus E1** and E2 envelope proteins for diagnostic and therapeutic use)

IT Antibodies and Immunoglobulins
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monoclonal; recombinant **hepatitis C virus**

E1 and E2 envelope proteins for diagnostic and therapeutic use)
IT DNA sequences
Epitopes
Hepatitis C virus
Human
Immunotherapy
Liver, disease
Molecular cloning
Mus
Prognosis
Protein sequences
Test kits
Vaccines
Viral vectors
Yeast
(recombinant **hepatitis C virus E1**
and E2 envelope proteins for diagnostic and therapeutic use)
IT Envelope proteins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(recombinant **hepatitis C virus E1**
and E2 envelope proteins for diagnostic and therapeutic use)
IT Antibodies and Immunoglobulins
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(recombinant **hepatitis C virus E1**
and E2 envelope proteins for diagnostic and therapeutic use)
IT Alums
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(recombinant **hepatitis C virus E1**
and E2 envelope proteins for diagnostic and therapeutic use)
IT Proteins
RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(recombinant; recombinant **hepatitis C virus**
E1 and E2 envelope proteins for diagnostic and therapeutic use)
IT Cytokines
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(secretion; recombinant **hepatitis C virus**
E1 and E2 envelope proteins for diagnostic and therapeutic use)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(separation; recombinant **hepatitis C virus**
E1 and E2 envelope proteins for diagnostic and therapeutic use)
IT Diagnosis
(serodiagnosis; recombinant **hepatitis C**
virus E1 and E2 envelope proteins for diagnostic and
therapeutic use)
IT Mutagenesis
(site-directed, deletion; recombinant **hepatitis C**
virus E1 and E2 envelope proteins for diagnostic and
therapeutic use)
IT Vaccinia **virus**
(vector; recombinant **hepatitis C virus**
E1 and E2 envelope proteins for diagnostic and therapeutic use)
IT Particles

(**virus**-like; recombinant **hepatitis C**
virus E1 and E2 envelope proteins for diagnostic and
therapeutic use)

IT 684311-15-7P 684311-17-9P 684311-19-1P 684311-21-5P 684311-23-7P
684311-25-9P 684311-27-1P 684311-29-3P 684311-31-7P 684311-33-9P
684311-35-1P 684311-37-3P 684311-39-5P 684311-41-9P 684311-43-1P
684311-45-3P 684311-47-5P 684311-49-7P 684311-51-1P 684311-53-3P
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation);
BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); ANST (Analytical study); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; recombinant **hepatitis C**
virus E1 and E2 envelope proteins for diagnostic and
therapeutic use)

IT 684311-44-2P 684311-46-4P 684311-48-6P 684311-50-0P 684311-52-2P
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation);
BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); ANST (Analytical study); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; recombinant **hepatitis C**
virus E1 and E2 envelope proteins for diagnostic and
therapeutic use)

IT 684311-14-6P 684311-16-8P 684311-18-0P 684311-20-4P 684311-22-6P
684311-24-8P 684311-26-0P 684311-28-2P 684311-30-6P 684311-32-8P
684311-34-0P 684311-36-2P 684311-38-4P 684311-40-8P 684311-42-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; recombinant **hepatitis C**
virus E1 and E2 envelope proteins for diagnostic and
therapeutic use)

IT 166673-21-8P 166673-22-9P 166673-23-0P 166673-30-9P 166673-31-0P
166673-32-1P 166673-43-4P 166673-44-5P 166673-47-8P 166673-50-3P
166774-04-5P 176502-01-5P 176502-02-6P 442851-72-1P 442851-78-7P
442851-79-8P 442851-80-1P 442851-81-2P 442851-82-3P 442851-83-4P
442851-84-5P 442851-85-6P 442851-86-7P 442851-87-8P 442851-88-9P
684311-64-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(recombinant **hepatitis C virus E1**
and E2 envelope proteins for diagnostic and therapeutic use)

IT 684311-54-4 684311-55-5 684311-56-6 684311-57-7 684311-58-8
684311-59-9 684311-60-2 684311-61-3 684311-62-4 684311-63-5
684311-65-7 684311-66-8 684311-67-9 684311-68-0 684311-69-1
684311-70-4 684311-71-5 684311-72-6 684311-73-7 684311-74-8
684311-75-9 684311-76-0 684311-77-1 684311-78-2 684311-79-3
684311-80-6 684311-81-7 684311-82-8
RL: PRP (Properties)
(unclaimed nucleotide sequence; recombinant **hepatitis**
C virus E1 and E2 envelope proteins for
diagnostic and therapeutic use)

IT 166673-25-2 166673-27-4 166673-28-5 166673-29-6 166673-33-2
166673-36-5 166673-37-6 166673-38-7 166673-39-8 166673-40-1
166673-41-2 166673-42-3 166673-45-6 166673-49-0 166774-03-4
442851-64-1 442851-65-2 442851-66-3 442851-67-4 442851-68-5
442851-69-6 442851-70-9 442851-71-0 442851-73-2 442851-74-3
442851-75-4 442851-76-5 442851-77-6
RL: PRP (Properties)
(unclaimed sequence; recombinant **hepatitis C**

virus E1 and E2 envelope proteins for diagnostic and therapeutic use)

L50 ANSWER 4 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **2003:757010** HCAPLUS
DN 139:275736
ED Entered STN: 26 Sep 2003
TI Monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection
IN Foung, Steven K. H.; Keck, Zhen-Yong
PA Board of Trustees of Leland Stanford Junior University, USA
SO U.S. Pat. Appl. Publ., 100 pp., Cont.-in-part of U.S. Ser. No. 728,720.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K0039-42
ICS C07K0016-08; A61K0031-00; A01N0061-00; A61K0039-395; C07K0016-00; C12P0021-08
INCL 424130100; 514001000; 424161100; 530388300; 424143100
CC 15-3 (Immunochemistry)
Section cross-reference(s): 1, 3, 9, 63
FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003180284	A1	20030925	US 2002-188608	20020702 <--
US 6692908	B1	20040217	US 1999-430489	19991029 <--
WO 2004005316	A2	20040115	WO 2003-US20580	20030627
WO 2004005316	A3	20050804		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1572721	A2	20050914	EP 2003-763059	20030627
EP 1572721	A3	20050928		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI US 1998-187057	B2	19981105 <--		
US 1999-430489	A2	19991029		
US 2000-728720	A2	20001201		
US 2002-188608	A	20020702		
WO 2003-US20580	W	20030627		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003180284	ICM	A61K0039-42
	ICS	C07K0016-08; A61K0031-00; A01N0061-00; A61K0039-395; C07K0016-00; C12P0021-08
	INCL	424130100; 514001000; 424161100; 530388300; 424143100
	IPCI	A61K0039-42 [ICM,7]; C07K0016-08 [ICS,7]; A61K0031-00 [ICS,7]; A01N0061-00 [ICS,7]; A61K0039-395 [ICS,7]; C07K0016-00 [ICS,7]; C12P0021-08 [ICS,7]
	NCL	424/130.100
	ECLA	C07K014/18F4; C07K016/10N1; G01N033/576F <--

US 6692908 IPCI C12Q0001-70 [ICM,7]; C12N0005-12 [ICS,7]; C07K0016-10 [ICS,7]
NCL 435/005.000; 435/339.000; 530/388.300
ECLA C07K014/18F4; C07K016/10N1 <--
WO 2004005316 IPCI C07K [ICM,7]
ECLA C07K014/18F4; C07K016/10N1; G01N033/576F
EP 1572721 IPCI C07K0001-00 [ICM,7]
ECLA C07K014/18F4; C07K016/10N1; G01N033/576F

AB Conformational epitopes of the envelope proteins **E1** and E2 of the **Hepatitis C virus** (**HCV**) have been identified and characterized using a panel of monoclonal antibodies derived from patients infected with **HCV**. These conserved conformational and linear epitopes of the **HCV** protein **E1** or E2 have been determined to be important in the immune response of humans to **HCV** and may be particularly important in neutralizing the **virus**. Based on the identification of these conformational epitopes, vaccines containing peptides and mimotopes with these conformational epitopes intact may be prepared and administered to patients to prevent and/or treat **HCV** infection. The identification of four distinct groups of monoclonal antibodies with each directed to a particular epitope of **E1** or E2 may be used to stratify patients based on their response to **HCV** and may be used to determine a proper treatment regimen. The **HCV E1** and E2 proteins and fragments are therefore provided for use in assays, screening drugs, vaccines, diagnostic assays and for other purposes.

ST antibody **hepatitis C virus E1** E2 conformational linear epitope; monoclonal antibody **HCV E1** epitope vaccine screening immunodiagnosis immunotherapy

IT Proteins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**E1**; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Fusion proteins (chimeric proteins)
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(E1E2; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Proteins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(E2; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Antibodies and Immunoglobulins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(IgG1; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TAPA-1 (target of antiproliferative antibody, 1); monoclonal

antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT B cell (lymphocyte)
(animal cell line; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Antibodies and Immunoglobulins
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(humanized; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Diagnosis
(immunodiagnosis; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Animal cell
(mammalian, animal cell line; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Peptides, biological studies
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(mimotopes; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Adoptive immunotherapy
Animal cell line
Bacteriophage
Blood analysis
Blood serum
Body fluid
Chemical compounds
Drug design
Drug screening
Drugs
Epitopes
Eukaryota
Hepatitis C virus
Human
Human **herpesvirus** 4
Hybridoma
Immunoassay
Immunotherapy
Mammalia
Molecular cloning
Peptidomimetics
Phage display library
Protein sequences
Vaccines
Virus
(monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Inorganic compounds
Organic compounds, biological studies
Organometallic compounds
Receptors
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Antibodies and Immunoglobulins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Antibodies and Immunoglobulins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(monoclonal; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neutralizing; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Diagnosis
(serodiagnosis; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Mutagenesis
(site-directed, deletion; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT Molecules
(small; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT 604895-45-6 604895-46-7 604895-47-8 604895-48-9 604895-49-0
604895-50-3 604895-51-4 604895-52-5 604895-53-6 604895-54-7
604895-55-8 604895-56-9 604895-57-0 604895-58-1 604895-59-2
604895-60-5 604895-61-6 604895-62-7 604895-63-8 604895-64-9
RL: PRP (Properties)
(unclaimed nucleotide sequence; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

IT 604895-65-0 604895-66-1 604895-67-2 604895-68-3
RL: PRP (Properties)
(unclaimed protein sequence; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV**

infection)
IT 7429-70-1 92000-76-5 98849-88-8 145646-22-6 267231-69-6
350810-65-0 604766-29-2 604766-30-5 604766-31-6 604766-32-7
604766-33-8 604766-34-9 604766-35-0 604766-36-1 604766-37-2
604766-38-3 604766-39-4
RL: PRP (Properties)
(unclaimed sequence; monoclonal antibodies to conformational and linear epitopes of **E1** or E2 proteins of **hepatitis C virus** for prevention and treatment of **HCV** infection)

L50 ANSWER 5 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:554579 HCAPLUS
DN 133:125267
ED Entered STN: 11 Aug 2000
TI Oral compositions of hepatitis C antigen prepared in silkworm
IN Zhang, Yaozhou; Wu, Xiangfu; Du, Guangxi
PA Zhejiang Agricultural University, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
IC ICM A61K0039-29
ICS C12N0015-09; C12N0015-51; C12N0015-63
CC 63-4 (**Pharmaceuticals**)
Section cross-reference(s): **1**, 3, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1218691	A	19990609	CN 1998-124615	19981029 <--
	CN 1074296	B	20011107		
PRAI	CN 1998-124615	A	19981029 <--		
	CN 1997-120242		19971105 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
CN 1218691	ICM	A61K0039-29
	ICS	C12N0015-09; C12N0015-51; C12N0015-63
	IPCI	A61K0039-29 [ICM,6]; C12N0015-09 [ICS,6]; C12N0015-51 [ICS,6]; C12N0015-63 [ICS,6] <--

AB The title process comprises synthesizing **hepatitis C-E1**-E2 gene segment by PCR, cloning into pUC19 SmaI to obtain recombinant 2,430 bp pUCVCE, cloning in vector pUBM-4, transfecting domestic silkworm grub, pupa or moth together with feral **virus** DNA while controlled by BmNPV polyhedral primers, expressing, separating, purifying by mol. sieve and MonoQ, and freeze-drying. A capsule, tablet, or oral vaccine is prepared by mixing the **hepatitis C** antigen with main constituents of silkworm blood, pupa and moth, freeze-drying, and sterilizing with Co-60.
ST silkworm hepatitis C antigen capsule tablet; oral vaccine hepatitis C antigen
IT Hepatitis
(C; oral compns. of hepatitis C antigen prepared in silkworm)
IT Drug delivery systems
(capsules; oral compns. of hepatitis C antigen prepared in silkworm)
IT Silkworm
(oral compns. of hepatitis C antigen prepared in silkworm)
IT Antigens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(oral compns. of hepatitis C antigen prepared in silkworm)

IT Vaccines
(oral; oral compns. of hepatitis C antigen prepared in silkworm)
IT Drug delivery systems
(tablets; oral compns. of hepatitis C antigen prepared in silkworm)

L50 ANSWER 6 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1999:819408** HCAPLUS
DN 132:77608
ED Entered STN: 30 Dec 1999
TI Particles of **HCV** envelope proteins: use for vaccination
IN Depla, Erik; **Maertens, Geert**; Bosman, Alfons; Van Wijnendaele, Frans
PA **Innogenetics N. V., Belg.**
SO PCT Int. Appl., 105 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07K0014-18
ICS A61K0039-29; C07K0016-10; G01N0033-576
CC 15-2 (Immunochemistry)
Section cross-reference(s): 3, 9
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9967285	A1	19991229	WO 1999-EP4342	19990623 <--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2330526	AA	19991229	CA 1999-2330526	19990623 <--
	AU 9946152	A1	20000110	AU 1999-46152	19990623 <--
	AU 765940	B2	20031002		
	EP 1090033	A1	20010411	EP 1999-929306	19990623 <--
	EP 1090033	B1	20041229		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	TR 200003843	T2	20010621	TR 2000-200003843	19990623 <--
	BR 9911397	A	20020115	BR 1999-11397	19990623 <--
	NZ 508797	A	20040227	NZ 1999-508797	19990623 <--
	NZ 528952	A	20040924	NZ 1999-528952	19990623 <--
	AT 286067	E	20050115	AT 1999-929306	19990623 <--
	RU 2247729	C2	20050310	RU 2001-101869	19990623 <--
	PT 1090033	T	20050531	PT 1999-929306	19990623 <--
	ES 2237115	T3	20050716	ES 1999-929306	19990623 <--
	EP 1555270	A1	20050720	EP 2004-103826	19990623 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
	US 6635257	B1	20031021	US 1999-355040	19990723 <--
	ZA 2000007318	A	20030310	ZA 2000-7318	20001208 <--
	HK 1037639	A1	20050429	HK 2001-107139	20011011 <--
	US 2003095980	A1	20030522	US 2001-995808	20011129 <--
	US 2003118603	A1	20030626	US 2001-995860	20011129 <--
	US 2003202987	A1	20031030	US 2003-414219	20030416 <--
PRAI	EP 1998-870142	A	19980624 <--		
	EP 1999-870033	A	19990222		
	WO 1995-EP3031	W	19950731 <--		

US 1996-612973	A3	19960311	<--
US 1997-928017	B2	19970911	<--
EP 1999-929306	A3	19990623	
WO 1999-EP4342	W	19990623	
US 1999-355040	W	19990723	
US 2000-304194P	P	20001201	
US 2001-260669P	P	20010111	
US 2001-315768P	P	20010830	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9967285	ICM	C07K0014-18
	ICS	A61K0039-29; C07K0016-10; G01N0033-576
	IPCI	C07K0014-18 [ICM,6]; A61K0039-29 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6]
	ECLA	C07K014/18F4 <--
CA 2330526	IPCI	C07K0014-18 [ICM,6]; C07K0016-10 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-576 [ICS,6] <--
AU 9946152	IPCI	C07K0014-18 [ICM,6]; A61K0039-29 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6] <--
EP 1090033	IPCI	C07K0014-18 [ICM,6]; A61K0039-29 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6]
	ECLA	C07K014/18F4 <--
TR 200003843	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7] <--
BR 9911397	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7] <--
NZ 508797	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7] <--
NZ 528952	IPCI	G01N0033-576 [ICM,7]; A61K0039-29 [ICS,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7] <--
AT 286067	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7] <--
RU 2247729	IPCI	C07K0014-18 [ICM,7]; C07K0016-10 [ICS,7]; A61K0039-29 [ICS,7]; G01N0033-576 [ICS,7]
	ECLA	C07K014/18F4 <--
PT 1090033	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7]
	ECLA	C07K014/18F4 <--
ES 2237115	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7]
	ECLA	C07K014/18F4 <--
EP 1555270	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]
	ECLA	C07K014/18F4 <--
US 6635257	IPCI	A61K0039-29 [ICM,7]
	NCL	424/228.100; 424/185.100; 435/005.000; 435/069.100; 435/235.100; 530/350.000; 530/826.000
	ECLA	C07K014/18F4 <--
ZA 2000007318	IPCI	C07K [ICM,7]; A61K [ICS,7]; G01N [ICS,7] <--
HK 1037639	IPCI	C07K [ICM,7]; A61K [ICS,7]; G01N [ICS,7] <--
US 2003095980	IPCI	A61K0039-12 [ICM,7]; C12P0021-02 [ICS,7]; C12N0001-18 [ICS,7]
	NCL	424/186.100
	ECLA	C07K014/18F4 <--
US 2003118603	IPCI	C07K0014-02 [ICM]; A61K0039-29 [ICS]; C12P0021-02 [ICS]; C12N0001-18 [ICS]; C12N0015-09 [ICS]; C12N0001-14 [ICS]; C12N0001-16 [ICS]; C07K0001-00 [ICS]; C07K0014-00 [ICS]; C07K0017-00 [ICS]
	NCL	424/189.100
	ECLA	C07K014/18F4 <--

US 2003202987 IPCI A61K0039-29 [ICM,7]; C12N0007-00 [ICS,7]; A61K0039-12 [ICS,7]; C12N0007-01 [ICS,7]
NCL 424/228.100
ECLA C07K014/18F4 <--

AB The present invention is based on the finding that the envelope proteins of **HCV** induce a beneficial immune response in chronically **HCV**-infected chimpanzees. The immunization can preferentially be carried out using **HCV** envelope proteins in the form of particles which are produced in a detergent-assisted manner. The envelope proteins when presented as such to chronic **HCV** carriers are highly immunogenic and stimulate both the cellular and humoral immune response.

ST **hepatitis C virus** envelope protein vaccine

IT Betaines
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(C12-14-alkyldimethyl; particles of **HCV** envelope proteins for vaccination)

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1**; particles of **HCV** envelope proteins for vaccination)

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1s**; particles of **HCV** envelope proteins for vaccination)

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(E2; particles of **HCV** envelope proteins for vaccination)

IT Infection
(**HCV**; particles of **HCV** envelope proteins for vaccination)

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NS2 (nonstructural, 2); particles of **HCV** envelope proteins for vaccination)

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NS3 (nonstructural, 3); particles of **HCV** envelope proteins for vaccination)

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NS4A (nonstructural, 4A); particles of **HCV** envelope proteins for vaccination)

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(NS4B (nonstructural, 4B); particles of **HCV** envelope proteins

mutation rate of 1.02-2.23+10-3 base substitutions per site per yr. The acute phase viremia levels in acute infections which resolved appeared to be at least 10-fold higher than during the acute phase of chronic infections. During chronic infections, the **viral** load fell rapidly after the acute phase and remained at very low levels for several years. After 4-6 yr, the **viral** load and liver enzymes increased again, suggesting reactivation of the infection. There was no clear temporal relation between sequence evolution of the **E1** region, changes in **viral** load, and the production of antibodies to the envelope proteins.

ST **hepatitis C virus** envelope protein primate

IT Evolution
(mol.; serol. and mol. anal. of **hepatitis C virus envelope** regions **1** and 2 during acute and chronic infections in chimpanzees)

IT Chimpanzee
Hepatitis C virus
Mutation
(serol. and mol. anal. of **hepatitis C virus envelope** regions **1** and 2 during acute and chronic infections in chimpanzees)

IT **Envelope** proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(serol. and mol. anal. of **hepatitis C virus envelope** regions **1** and 2 during acute and chronic infections in chimpanzees)

IT Infection
(**viral**; serol. and mol. anal. of **hepatitis C virus envelope** regions **1** and 2 during acute and chronic infections in chimpanzees)

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L50 ANSWER 14 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:542468 HCAPLUS
DN 127:219552
ED Entered STN: 25 Aug 1997
TI Monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2
IN Dubuisson, Jean; Pillez, Andre
PA Institut Pasteur De Lille, Fr.; Dubuisson, Jean; Pillez, Andre
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM C07K0016-10
ICS G01N0033-577; G01N0033-576; C07K0014-18; C07K0001-22; A61K0039-29; C12N0015-51
CC 15-3 (Immunochemistry)
Section cross-reference(s): 9, 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9729129	A1	19970814	WO 1997-FR232	19970205 <--
	W: AU, CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	FR 2744725	A1	19970814	FR 1996-1651	19960209 <--
	FR 2744725	B1	19980430		
	AU 9717283	A1	19970828	AU 1997-17283	19970205 <--
PRAI	FR 1996-1651	A	19960209 <--		
	WO 1997-FR232	W	19970205 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9729129	ICM	C07K0016-10
	ICS	G01N0033-577; G01N0033-576; C07K0014-18; C07K0001-22; A61K0039-29; C12N0015-51
	IPCI	C07K0016-10 [ICM,6]; G01N0033-577 [ICS,6]; G01N0033-576 [ICS,6]; C07K0014-18 [ICS,6]; C07K0001-22 [ICS,6]; A61K0039-29 [ICS,6]; C12N0015-51 [ICS,6]
	ECLA	C07K014/18F4; C07K016/10N1 <--
FR 2744725	IPCI	C07K0016-10 [ICM,6]; C07K0014-08 [ICS,6]; C12P0021-08

[ICS,6]; G01N0033-576 [ICS,6]; G01N0033-577 [ICS,6]; A61K0039-29 [ICS,6]
ECLA C07K014/18F4; C07K016/10N1 <--
AU 9717283 IPCI C07K0016-10 [ICM,6]; G01N0033-577 [ICS,6]; G01N0033-576 [ICS,6]; C07K0014-18 [ICS,6]; C07K0001-22 [ICS,6]; A61K0039-29 [ICS,6]; C12N0015-51 [ICS,6] <--

AB An antibody specifically binding to mature complexes formed between **hepatitis C virus** glycoproteins **E1** and E2 that have a structure stabilized by non-covalent bonds are described for use in determination or purification of the E1E2 complex. Complexes of **E1** and E2 were prepared by expression of the cloned genes in animal cells and the well-defined complex stabilized by non-covalent interactions was separated from heterogeneous covalent complexes by sucrose d. gradient centrifugation. The E1E2 complexes precipitated by the antibody showed the binding to calnexins of the native complex and it was also shown that the E1E2 complexes used in vaccines are often in non-native conformations.

ST **E1** E2 glycoprotein complex monoclonal antibody; **hepatitis C virus** monoclonal antibody

IT Glycoproteins, specific or class
RL: ANT (Analyte); BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(**E1**, complexes with E2 glycoproteins; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)

IT Glycoproteins, specific or class
RL: ANT (Analyte); BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(E2, complexes with **E1** glycoproteins; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)

IT Gene, microbial
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(for **E1** and E2 glycoproteins of **hepatitis C virus** in animal cell culture of; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)

IT Immunoassay
(for E1E2 glycoprotein complexes of **hepatitis C virus**; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)

IT Vaccines
(**hepatitis C virus**, malconformation of E1E2 glycoprotein complexes in; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)

IT Calnexin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(interaction with E1E2 complexes of; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)

IT **Hepatitis C virus**
(monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1**

and E2)
IT Antibodies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)
IT Antibodies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(monoclonal; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)
IT Plasmid vectors
(pSINrep5/HCV171-383(**E1**), **E1** gene of **hepatitis C virus** on; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)
IT Plasmid vectors
(pSINrep5/HCV370-745(E2), E2 gene of **hepatitis C virus** on; monoclonal antibodies specific for mature complexes of **hepatitis C virus** glycoproteins **E1** and E2)

L50 ANSWER 15 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:422559 HCAPLUS
DN 125:107079
ED Entered STN: 18 Jul 1996
TI New sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents
IN **Maertens, Geert**; Stuyver, Lieven
PA **Innogenetics N.V., Belg.**
SO PCT Int. Appl., 151 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-40
ICS C07K0014-18; C12Q0001-70; C07K0016-10; G01N0033-576
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): **1**, 6, 9, 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9613590	A2	19960509	WO 1995-EP4155	19951023 <--
	WO 9613590	A3	19960815		
	W: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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	AU 9538440	A1	19960523	AU 1995-38440	19951023 <--
	AU 702436	B2	19990218		
	BR 9509421	A	19970930	BR 1995-9421	19951023 <--
	EP 804584	A1	19971105	EP 1995-936537	19951023 <--
	EP 804584	B1	20020605		
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JP 10507643	T2	19980728	JP 1996-514299	19951023	<--
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EP 1076092	A3	20010328			
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AT 218617	E	20020615	AT 1995-936537	19951023	<--
PT 804584	T	20021129	PT 1995-936537	19951023	<--
ES 2176342	T3	20021201	ES 1995-936537	19951023	<--
US 6180768	B1	20010130	US 1997-836075	19970421	<--
US 2002183508	A1	20021205	US 2001-851138	20010509	<--
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PRAI EP 1994-870166	A	19941021	<--		
EP 1995-870076	A	19950628	<--		
EP 1995-936537	A3	19951023	<--		
JP 1996-514299	A3	19951023	<--		
WO 1995-EP4155	W	19951023	<--		
US 1997-836075	A3	19970421	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9613590	ICM	C12N0015-40
	ICS	C07K0014-18; C12Q0001-70; C07K0016-10; G01N0033-576
	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6]
	ECLA	C07K014/18F4 <--
CA 2201703	IPCI	C12N0015-51 [ICM,6]; C07H0021-00 [ICS,6]; C07K0007-06 [ICS,6]; A61K0038-08 [ICS,6]; C07K0007-08 [ICS,6]; A61K0038-10 [ICS,6]; C07K0016-10 [ICS,6]; C12N0015-11 [ICS,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-543 [ICS,6]; G01N0033-576 [ICS,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6] <--
AU 9538440	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6] <--
BR 9509421	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6] <--
EP 804584	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-576 [ICS,6] <--
JP 10507643	IPCI	C12N0015-09 [ICM]; A61K0038-00 [ICS]; A61K0039-29 [ICS]; A61K0039-395 [ICS]; C07K0014-18 [ICS]; C07K0016-10 [ICS]; C12P0021-02 [ICS]; C12Q0001-68 [ICS]; G01N0033-576 [ICS] <--
EP 1076092	IPCI	C12N0015-40 [ICM,6]; C12N0015-51 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0014-18 [ICS,6]; G01N0033-569 [ICS,6]; A61K0039-29 [ICS,6]; C07K0016-10 [ICS,6]
	ECLA	C07K014/18F4 <--
AT 218617	IPCI	C12N0015-40 [ICM,7]; C07K0014-18 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7] <--
PT 804584	IPCI	C12N0015-40 [ICM,7]; C07K0014-18 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7] <--
ES 2176342	IPCI	C12N0015-40 [ICM,7]; C07K0014-18 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0016-10 [ICS,7]; G01N0033-576 [ICS,7] <--
US 6180768	IPCI	C07H0021-04 [ICM,7]; C12Q0001-70 [ICS,7]; G01N0033-53 [ICS,7]; C12P0021-00 [ICS,7]
	NCL	536/023.100; 536/023.720; 536/024.300; 435/005.000; 435/007.100; 435/069.300; 435/252.300; 435/320.100; 530/300.000; 530/350.000
	ECLA	C07K014/18F4 <--
US 2002183508	IPCI	C12Q0001-70 [ICM,7]; C07H0021-04 [ICS,7]; C12N0007-00 [ICS,7]; C07H0021-00 [ICS,7]; C12N0015-51 [ICS,7];

C12N0015-36 [ICS,7]; C12N0005-00 [ICS,7]
NCL 536/023.720
ECLA C07K014/18F4 <--
JP 2005118044 IPCI C12N0015-09 [ICM]; A61K0038-00 [ICS]; A61K0039-00 [ICS]; A61K0039-395 [ICS]; A61K0048-00 [ICS]; A61P0001-16 [ICS]; A61P0031-14 [ICS]; A61P0037-04 [ICS]; C07K0004-02 [ICS]; C07K0016-08 [ICS]; C12N0001-15 [ICS]; C12N0001-19 [ICS]; C12N0001-21 [ICS]; C12N0005-10 [ICS]; C12P0021-02 [ICS]; C12Q0001-68 [ICS]; G01N0033-53 [ICS]; G01N0033-566 [ICS]; G01N0033-569 [ICS]; G01N0033-577 [ICS]
FTERM 4B024/AA01; 4B024/AA14; 4B024/BA33; 4B024/BA41; 4B024/BA51; 4B024/BA61; 4B024/CA04; 4B024/CA09; 4B024/CA11; 4B024/DA01; 4B024/DA02; 4B024/DA05; 4B024/DA11; 4B024/GA01; 4B024/GA11; 4B024/HA08; 4B024/HA12; 4B063/QA01; 4B063/QA18; 4B063/QA19; 4B063/QQ02; 4B063/QQ08; 4B063/QQ10; 4B063/QQ42; 4B063/QQ52; 4B063/QR08; 4B063/QR32; 4B063/QR42; 4B063/QR50; 4B063/QR56; 4B063/QR58; 4B063/QR62; 4B063/QR66; 4B063/QR72; 4B063/QR77; 4B063/QR82; 4B063/QS03; 4B063/QS25; 4B063/QS28; 4B063/QS34; 4B063/QS36; 4B063/QS39; 4B063/QX01; 4B064/AG33; 4B064/CA02; 4B064/CA05; 4B064/CA10; 4B064/CA11; 4B064/CA19; 4B064/CC24; 4B064/DA01; 4B064/DA15; 4B065/AA01X; 4B065/AA57X; 4B065/AA87X; 4B065/AA96Y; 4B065/AB01; 4B065/BA02; 4B065/BA08; 4B065/CA24; 4B065/CA25; 4B065/CA45; 4B065/CA46; 4C084/AA02; 4C084/AA03; 4C084/AA06; 4C084/AA07; 4C084/AA13; 4C084/BA01; 4C084/BA02; 4C084/BA22; 4C084/CA53; 4C084/NA14; 4C084/ZA752; 4C084/ZB022; 4C084/ZB332; 4C085/AA03; 4C085/AA13; 4C085/AA14; 4C085/CC23; 4H045/AA10; 4H045/AA11; 4H045/AA20; 4H045/AA30; 4H045/BA09; 4H045/CA02; 4H045/CA40; 4H045/DA75; 4H045/DA76; 4H045/DA86; 4H045/EA20; 4H045/EA31; 4H045/EA53; 4H045/FA74 <--

AB Genomic nucleotide sequences and amino acid sequences corresponding to the coding region are provided for new **hepatitis C virus** (**HCV**) types and subtypes which are different from the known **HCV** types and subtypes sequences. More particularly, new **HCV** type 7 sequences, new **HCV** type 9 sequences, new **HCV** 9 sequences, new **HCV** type 10, and new **HCV** type 11 sequences are disclosed. Also, the present invention relates to new **HCV** type 1 sequences of subtypes 1d, 1e, 1f, and 1g; new **HCV** type 2 sequences of subtypes 2e, 2f, 2g, 2h, 2i, 2k, and 2l; new **HCV** type 2 sequences of subtype 3g, new **HCV** type 4 sequences of subtypes 4k, 4l, and 4m; a process for preparing them; and their use of diagnosis, prophylaxis, and therapy. The new type-specific sequences in particular represent the Core, the **E1**, and the NS5 regions of new **HCV** types 7, 9, 10, and 11, as well as of new variants (subtypes) of **HCV** types 1, 2, 3, and 4. These new **HCV** sequences are useful to diagnose the presence of **HCV** type 1, and/or type 2, and/or type 3, and/or type 4, and/or type 7, and/or type 9, and/or type 10, and/or type 11 genotypes or serotypes in a biol. sample. The availability of these new type-specific sequences can increase the overall sensitivity of **HCV** detection and should also prove to be useful for prophylactic and therapeutic purposes.

ST RNA protein sequence **hepatitis C virus**

IT Proteins, specific or class, biological studies
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU

(Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NS5b (nonstructural, 5b); sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Genetic methods
(amplification; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Protein sequences
(of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Molecular cloning
Nucleic acid hybridization
Vaccines
(sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Antibodies
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Ribonucleic acids, **viral**
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Proteins, specific or class
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**E1**, sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Glycoproteins, specific or class
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NS4 (nonstructural, 4), sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Proteins, specific or class
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(NS5 (nonstructural, 5), sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Genetic methods
(genotyping, sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT **Virus, animal**
(**hepatitis C**, sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Antigens
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES

(Uses)
(**hepatitis C** core, sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Nucleotides, biological studies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(oligo-, sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Proteins, specific or class
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(poly-, sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT Ribonucleic acid sequences
(**viral**, of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 171760-43-3 178473-01-3 178473-02-4 178473-03-5 178473-04-6
178473-05-7 178473-06-8 178473-07-9 178473-08-0 178473-09-1
178473-10-4 178473-11-5 178473-12-6 178473-13-7 178473-14-8
178473-15-9 178473-16-0 178473-17-1 178473-18-2 178473-19-3
178473-20-6 178473-21-7 178473-22-8 178473-23-9 178535-46-1
178535-99-4 178536-00-0 178536-01-1 178536-02-2 178536-03-3
178536-04-4 178536-05-5 178536-06-6 178536-07-7 178536-08-8
178536-09-9 178536-10-2 178536-11-3 178536-12-4 178536-13-5
178536-14-6 178536-15-7 178536-16-8 178536-17-9 178536-18-0
178536-19-1 178536-20-4 178536-21-5 178536-22-6 178536-23-7
178536-24-8 178536-37-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 166163-37-7 166163-38-8 166163-79-7 166164-10-9 170815-68-6
170816-00-9 170816-10-1 170816-13-4 175034-18-1 175034-19-2
175034-23-8 175034-24-9 177891-84-8 178474-22-1 178474-23-2
178474-24-3 178474-25-4 178474-26-5 178474-27-6 178474-28-7
178474-29-8 178474-30-1 178474-31-2 178474-32-3 178474-33-4
178474-34-5 178474-35-6 178474-36-7 178474-37-8 178474-38-9
178474-39-0 178537-27-4 178537-28-5 178537-29-6 178537-30-9
178537-31-0 178537-32-1 178537-33-2 178537-34-3 178537-35-4
178537-36-5 178537-37-6 178537-38-7 178537-39-8 178537-40-1
178537-41-2 178537-42-3 178537-43-4 178537-44-5 178537-45-6
178537-46-7 178537-47-8 179733-90-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(nucleotide sequence; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-44-9
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 10 core variable region peptide; sequences of

hepatitis C virus genotypes and their use
as prophylactic, therapeutic and diagnostic agents)

IT 178492-62-1
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 10 protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-77-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 10 protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-92-7
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 10 protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-06-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 10 protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-21-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 10 protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-45-0 178492-46-1
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 11 core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-36-9 180395-64-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1d core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-47-2 178492-48-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1d protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-63-2 178492-64-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU

(Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1d protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-78-9 178492-79-0
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1d protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-93-8 178492-94-9
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1d protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-07-7 178493-08-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1d protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-37-0
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1e core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-38-1
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1f core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-49-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1f protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-65-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1f protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-80-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1f protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their

use as prophylactic, therapeutic and diagnostic agents)
IT 178492-95-0
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1f protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178493-09-9
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 1f protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 180395-65-7
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2e core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-50-7
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2e protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-81-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2e protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-96-1
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2e protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178493-10-2
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2e protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-40-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2f core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-51-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES

(Uses)
(subtype 2f protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-66-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2f protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-82-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2f protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-97-2
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2f protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-11-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2f protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-52-9
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2g protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-67-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2g protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-98-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2g protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-12-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2g protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-53-0
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2h protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-68-7
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2h protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-83-6 178492-84-7
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2h protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-99-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2h protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178493-13-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2h protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-54-1
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2i protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-69-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2i protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 178492-85-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2i protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)
IT 161337-94-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(subtype 2i protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-39-2
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2k core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-55-2
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2k protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-86-9
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2k protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-00-0
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2k protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-14-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 2k protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-56-3 178492-57-4 178492-58-5 178492-59-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4k protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-70-1 178492-71-2 178492-72-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4k protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 161338-44-9 178492-35-8 178492-87-0 178492-88-1
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4k protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 161376-67-6 178493-01-1

RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4k protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 161337-68-4 161338-48-3 178493-15-7 178493-16-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4k protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 161337-74-2
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4l protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-73-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4l protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-89-2
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4l protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-02-2
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4l protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-17-9
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 4l protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-42-7
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7a and 7c core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-60-9
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7c protein **E1** variable region V1 peptide; sequences

of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178492-75-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7c protein **E1** variable region V2 peptide; sequences
of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178492-91-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7c protein **E1** variable region V3 peptide; sequences
of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178493-04-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7c protein **E1** variable region V4 peptide; sequences
of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178493-19-1
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7c protein **E1** variable region V5 peptide; sequences
of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178492-43-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7d core variable region peptide; sequences of
hepatitis C virus genotypes and their use
as prophylactic, therapeutic and diagnostic agents)
IT 178492-61-0
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7d protein **E1** variable region V1 peptide; sequences
of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178492-76-7
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7d protein **E1** variable region V2 peptide; sequences
of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178493-05-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7d protein **E1** variable region V4 peptide; sequences
of **hepatitis C virus** genotypes and their
use as prophylactic, therapeutic and diagnostic agents)
IT 178493-20-4
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU

(Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 7d protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-41-6
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 9 core variable region peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 180395-66-8
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 9 protein **E1** variable region V1 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-74-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 9 protein **E1** variable region V2 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178492-90-5
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 9 protein **E1** variable region V3 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-03-3
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 9 protein **E1** variable region V4 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

IT 178493-18-0
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(subtype 9 protein **E1** variable region V5 peptide; sequences of **hepatitis C virus** genotypes and their use as prophylactic, therapeutic and diagnostic agents)

L50 ANSWER 16 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:336531 HCAPLUS
DN 125:5386
ED Entered STN: 11 Jun 1996
TI Nucleotide and amino acid sequences of the **envelope 1** and core genes of **hepatitis C virus** isolates
IN Bukh, Jens; Miller, Roger H.; Purcell, Robert H.
PA United States Dept. of Health and Human Services, USA
SO PCT Int. Appl., 338 pp.
CODEN: PIXXD2
DT Patent
LA English

IC ICM C12N0015-51
ICS C07K0014-18; G01N0033-569; A61K0039-29; C12Q0001-68; C12Q0001-70; C07K0016-10
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 3
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9605315	A2	19960222	WO 1995-US10398	19950815	<--
	WO 9605315	A3	19960404			
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT					
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
	US 5882852	A	19990316	US 1994-290665	19940815	<--
	AU 9534065	A1	19960307	AU 1995-34065	19950815	<--
	AU 712385	B2	19991104			
	EP 779924	A2	19970625	EP 1995-930831	19950815	<--
	EP 779924	B1	20051109			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
	AT 309367	E	20051115	AT 1995-930831	19950815	<--
PRAI	US 1994-290665	A	19940815	<--		
	US 1993-86428	A2	19930629	<--		
	WO 1995-US10398	W	19950815	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9605315	ICM	C12N0015-51	
	ICS	C07K0014-18; G01N0033-569; A61K0039-29; C12Q0001-68; C12Q0001-70; C07K0016-10	
	IPCI	C12N0015-51 [ICM,6]; C07K0014-18 [ICS,6]; G01N0033-569 [ICS,6]; A61K0039-29 [ICS,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0016-10 [ICS,6]	
	ECLA	C07K014/18F4; C12Q001/70B6A	<--
US 5882852	IPCI	C12Q0001-70 [ICM,6]; C12P0019-34 [ICS,6]; C07H0021-04 [ICS,6]; C12N0015-00 [ICS,6]	
	NCL	435/005.000; 435/006.000; 435/091.100; 435/091.200; 435/091.320; 435/091.330; 435/810.000; 536/023.100; 536/024.300; 536/024.330	
	ECLA	C07K014/18F4; C12Q001/70B6A	<--
AU 9534065	IPCI	C12N0015-51 [ICM,6]; C07K0014-18 [ICS,6]; G01N0033-569 [ICS,6]; A61K0039-29 [ICS,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0016-10 [ICS,6]	<--
EP 779924	IPCI	C12N0015-51 [ICM,7]; C07K0014-18 [ICS,7]; G01N0033-569 [ICS,7]; A61K0039-29 [ICS,7]; C12Q0001-68 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0016-10 [ICS,7]	
	ECLA	C07K014/18F4; C12Q001/70B6A	<--
AT 309367	IPCI	C12N0015-51 [ICM,7]; C07K0014-18 [ICS,7]; G01N0033-569 [ICS,7]; A61K0039-29 [ICS,7]; C12Q0001-68 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0016-10 [ICS,7]	
	ECLA	C07K014/18F4; C12Q001/70B6A	<--

AB The nucleotide and deduced amino acid sequences of cDNAs encoding the **envelope** (**1**) genes and core genes of isolates of **hepatitis C virus** (**HCV**) are disclosed. Information derived from these sequences is useful in classification of **viral** isolates and in the development of immunochem. and nucleic acid reagents for detection of the **virus**

and in vaccines.
ST envelope protein sequences **hepatitis C virus** ; **E1** gene sequences **hepatitis C virus**; core protein sequences **hepatitis C virus**
IT Blood serum
Lymphocyte
Saliva
(detection of **hepatitis C virus** in; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Ribonucleic acid sequences
(for core and **E1** proteins of **hepatitis C virus**; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Polymerase chain reaction
(for detection of **hepatitis C virus**; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Vaccines
(**hepatitis C virus**, core and **E1** peptides as antigens in; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Protein sequences
(of core and **E1** proteins of **hepatitis C virus**; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Antibodies
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(to **hepatitis C virus E1** and core proteins; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Gene, microbial
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(**E1**, nucleotide sequences of; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(core, amino acid sequences of; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Immunoassay
(enzyme-linked immunosorbent assay, for detection of **hepatitis C virus** subtypes; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)
IT Proteins, specific or class, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(gene **E1**, amino acid sequences of; nucleotide and amino acid sequences of **envelope 1** and core genes of

hepatitis C virus isolates)

IT **Virus, animal**
(**hepatitis C**, nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)

IT Antibodies
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(monoclonal, to **hepatitis C virus** **E1** and core proteins; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)

IT Leukocyte
(mononuclear, detection of **hepatitis C virus** in; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)

IT Nucleotides
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(oligo-, primers, for detection of **hepatitis C virus** by PCR; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)

IT 151552-78-2 151552-79-3 151552-80-6 151552-81-7 151552-82-8
151552-85-1 151552-86-2 151552-87-3 151552-88-4 151552-89-5
151552-90-8 151552-91-9 151552-92-0 151552-93-1 151552-94-2
151552-95-3 151552-96-4 151552-98-6 151552-99-7 151553-00-3
151553-01-4 151553-02-5 151553-03-6 151553-04-7 151553-05-8
151553-06-9 151553-07-0 151553-08-1 151553-09-2 151553-10-5
151553-11-6 151553-12-7 151553-13-8 151553-14-9 151553-15-0
151553-17-2 151553-18-3 151553-19-4 151553-20-7 151553-21-8
151553-22-9 151553-23-0 151553-24-1 151553-25-2 151553-26-3
151553-27-4 151553-28-5 154173-13-4 158888-25-6 158888-26-7
158888-27-8 158888-28-9 158888-29-0 158888-30-3 158888-31-4
158888-32-5 158888-33-6 158888-34-7 158888-35-8 158888-36-9
158888-37-0 158888-38-1 158888-40-5 158888-41-6 158888-42-7
158888-43-8 158888-44-9 158888-45-0 158888-46-1 158888-47-2
158888-48-3 158888-49-4 158888-50-7 158888-51-8 158888-52-9
158888-53-0 158888-54-1 158888-55-2 158888-56-3 158888-57-4
158888-58-5 158888-59-6 158888-60-9 158888-61-0 158888-62-1
158888-63-2 158888-64-3 158888-65-4 177189-01-4 177322-64-4
177322-65-5 177322-66-6 177323-02-3
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(amino acid sequence; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)

IT 151182-50-2 151182-51-3 151182-52-4 151182-53-5 151182-54-6
151182-55-7 151182-56-8 151182-57-9 151182-58-0 151182-59-1
151182-60-4 151182-61-5 151182-62-6 151182-63-7 151182-64-8
151182-65-9 151182-66-0 151182-67-1 151182-68-2 151182-74-0
151182-75-1 151182-76-2 151182-77-3 151182-78-4 151182-79-5
151182-80-8 151182-81-9 151182-82-0 151182-83-1 151182-84-2
151182-85-3 151182-86-4 151182-87-5 151182-88-6 151182-89-7
151182-90-0 151182-91-1 151182-92-2 151182-93-3 151182-94-4
151182-95-5 151182-96-6 151182-97-7 151182-98-8 151182-99-9
151183-00-5 151183-01-6 151183-02-7 151183-03-8 151318-94-4
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158126-32-0 158126-33-1 158126-34-2 158126-35-3 158126-36-4
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158126-42-2 158126-43-3 158126-44-4 158126-45-5 158126-46-6
158126-47-7 158126-48-8 158126-49-9 158126-50-2 158126-51-3
158126-52-4 158126-53-5 158126-54-6 158126-55-7 158126-56-8
158126-57-9 158126-58-0 158126-59-1 158126-60-4 158126-61-5
158126-62-6 158126-63-7 158126-64-8 158126-65-9 158126-66-0
158126-67-1 158126-68-2 158126-69-3 158126-70-6 158126-71-7
158126-72-8 158126-73-9 158126-74-0 158126-75-1 158126-76-2
158126-77-3 158126-78-4 177323-01-2
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(nucleotide sequence; nucleotide and amino acid sequences of **envelope 1** and core genes of **hepatitis C virus** isolates)

L50 ANSWER 17 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:298502 HCAPLUS
DN 124:334853
ED Entered STN: 21 May 1996
TI **Hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development
IN Selby, Mark; Houghton, Michael
PA Chiron Corporation, USA
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07K0014-18
ICS C12N0015-51; A61K0039-29
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 6, 10, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9604301	A2	19960215	WO 1995-US10035	19950726 <--
	WO 9604301	A3	19960328		
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2195312	AA	19960215	CA 1995-2195312	19950726 <--
	AU 9532410	A1	19960304	AU 1995-32410	19950726 <--
	EP 773957	A2	19970521	EP 1995-928779	19950726 <--
	EP 773957	B1	20050629		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 2002515005	T2	20020521	JP 1996-506814	19950726 <--
	EP 1510580	A2	20050302	EP 2004-77562	19950726 <--
	EP 1510580	A3	20050622		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	AT 298764	E	20050715	AT 1995-928779	19950726 <--
	PT 773957	T	20051130	PT 1995-928779	19950726 <--
	ZA 9506318	A	19960307	ZA 1995-6318	19950728 <--
	US 6121020	A	20000919	US 1997-824057	19970324 <--
	US 6326171	B1	20011204	US 1999-415582	19991008 <--
	JP 2005290010	A2	20051020	JP 2005-140416	20050512 <--
PRAI	US 1994-282959	A	19940729	<--	

US 1995-506608		19950725	<--
EP 1995-928779	A3	19950726	<--
JP 1996-506814	A3	19950726	<--
WO 1995-US10035	W	19950726	<--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9604301	ICM	C07K0014-18
	ICS	C12N0015-51; A61K0039-29
	IPCI	C07K0014-18 [ICM,6]; C12N0015-51 [ICS,6]; A61K0039-29 [ICS,6]
	ECLA	C07K014/18F4 <--
CA 2195312	IPCI	C12N0015-51 [ICM,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6] <--
AU 9532410	IPCI	C07K0014-18 [ICM,6]; C12N0015-51 [ICS,6]; A61K0039-29 [ICS,6] <--
EP 773957	IPCI	C07K0014-18 [ICM,6]; C12N0015-51 [ICS,6]; A61K0039-29 [ICS,6]
	ECLA	C07K014/18F4 <--
JP 2002515005	IPCI	C07K0014-18 [ICM]; A61K0039-29 [ICS]; A61P0001-16 [ICS]; A61P0031-14 [ICS]; C12N0005-10 [ICS]; C12N0015-09 [ICS]; C12P0021-02 [ICS] <--
EP 1510580	IPCI	C12N0015-51 [ICM,7]; C07K0014-18 [ICS,7]; C12N0015-86 [ICS,7]; A61K0039-29 [ICS,7]
	ECLA	C07K014/18F4 <--
AT 298764	IPCI	C07K0014-18 [ICM,7]; C12N0015-51 [ICS,7]; A61K0039-29 [ICS,7]
	ECLA	C07K014/18F4 <--
PT 773957	IPCI	A61K0039-00 [N,C]; C07K0014-005 [I,C]; A61K0039-00 [N,A]; C07K0014-18 [I,A]
	ECLA	C07K014/18F4 <--
ZA 9506318	IPCI	C12N [ICM,6]; C07K [ICS,6]; A61K [ICS,6] <--
US 6121020	IPCI	C12N0015-09 [ICM,7]; C12N0015-74 [ICS,7]; C12Q0001-70 [ICS,7]; A61K0039-29 [ICS,7]
	NCL	435/069.300; 424/189.100; 424/228.100; 435/320.100; 530/350.000
	ECLA	C07K014/18F4 <--
US 6326171	IPCI	C12N0015-09 [ICM,7]; C12N0007-00 [ICS,7]; C12Q0001-70 [ICS,7]; A61K0039-29 [ICS,7]; A61K0039-00 [ICS,7]
	NCL	435/069.300; 424/185.100; 424/204.100; 424/228.100; 435/005.000; 435/235.100; 530/395.000; 530/826.000
	ECLA	C07K014/18F4 <--
JP 2005290010	IPCI	C07K0014-18 [ICM,7]; A61K0039-29 [ICS,7]; A61P0031-14 [ICS,7]; C12N0015-09 [ICS,7]
	FTERM	4B024/AA01; 4B024/BA33; 4B024/CA04; 4B024/DA02; 4B024/DA05; 4B024/DA06; 4B024/DA11; 4B024/DA12; 4B024/EA04; 4B024/GA11; 4C085/AA03; 4C085/BA92; 4C085/CC08; 4C085/EE01; 4H045/AA11; 4H045/AA30; 4H045/BA10; 4H045/CA02; 4H045/DA86; 4H045/EA31; 4H045/FA74 <--

AB Novel **hepatitis C virus E1** and E2 truncated polypeptides and complexes comprising these polypeptides, are disclosed. The polypeptides are **C**-terminally truncated to remove all or a portion of their membrane spanning domains. Hence, the polypeptides are capable of secretion when expressed recombinantly.

ST **hepatitis C virus** vaccine recombinant glycoprotein; glycoprotein envelope recombinant secretion HCV1 **virus**

IT Gene, microbial
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU

(Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(cloning; **hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT Deoxyribonucleic acid sequences
Genetic vectors
Molecular cloning
Protein sequences
Vaccines
(**hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT Plasmid and Episome
(pMHE2-715; **hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT Glycoproteins, specific or class
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1**, **hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT Glycoproteins, specific or class
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(E2, **hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT **Virus, animal**
(**hepatitis C, hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT **Virus, animal**
(**hepatitis C**, type **1**; **hepatitis C virus envelope E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT Biological transport
(secretion, **hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT 176591-86-9P 176591-88-1P
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; **hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

IT 176591-85-8 176591-87-0
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process); USES (Uses)
(nucleotide sequence; **hepatitis C virus** envelope **E1** and E2 glycoproteins and complexes, recombinant truncated protein production and secretion, and vaccine development)

L50 ANSWER 18 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:295079 HCAPLUS
DN 124:352673
ED Entered STN: 18 May 1996
TI Recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use
IN **Maertens, Geert; Bosman, Fons;** De Martynoff, Guy; **Buyse, Marie-Ange**
PA **Innogenetics N.V., Belg.**
SO PCT Int. Appl., 146 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-40
ICS C07K0014-18; C07K0016-10; C12Q0001-70; G01N0033-569
CC 63-3 (**Pharmaceuticals**)
Section cross-reference(s): 3, 15
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9604385	A2	19960215	WO 1995-EP3031	19950731 <--
	WO 9604385	A3	19960307		
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2172273	AA	19960215	CA 1995-2172273	19950731 <--
	AU 9533824	A1	19960304	AU 1995-33824	19950731 <--
	AU 708174	B2	19990729		
	EP 721505	A1	19960717	EP 1995-930434	19950731 <--
	EP 721505	B1	20020508		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09503396	T2	19970408	JP 1995-506189	19950731 <--
	BR 9506059	A	19971028	BR 1995-6059	19950731 <--
	SG 71728	A1	20000418	SG 1997-3877	19950731 <--
	AT 217345	E	20020515	AT 1995-930434	19950731 <--
	EP 1211315	A1	20020605	EP 2002-3643	19950731 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	PT 721505	T	20021031	PT 1995-930434	19950731 <--
	ES 2174957	T3	20021116	ES 1995-930434	19950731 <--
	US 6150134	A	20001121	US 1996-612973	19960311 <--
	US 6245503	B1	20010612	US 1997-927597	19970911 <--
	US 6890737	B1	20050510	US 1997-928757	19970912 <--
	AU 9957127	A1	20000217	AU 1999-57127	19991029 <--
	AU 757962	B2	20030313		
	US 2003036110	A1	20030220	US 2001-899303	20010706 <--
	US 2002182706	A1	20021205	US 2001-973025	20011010 <--
	US 2003095980	A1	20030522	US 2001-995808	20011129 <--
	JP 2004222729	A2	20040812	JP 2004-51709	20040226 <--
	US 2004185061	A1	20040923	US 2004-825219	20040416 <--
PRAI	EP 1994-870132	A	19940729 <--		
	EP 1995-930434	A3	19950731 <--		
	JP 1996-506189	A3	19950731 <--		
	WO 1995-EP3031	W	19950731 <--		
	US 1996-612973	A3	19960311 <--		
	US 1997-928017	B3	19970911 <--		
	WO 1999-EP4342	W	19990623		

US 1999-355040	W	19990723
EP 1999-870225	A	19991027
US 1999-795289	A1	19991207
US 2000-304194P	P	20001201
US 2001-260669P	P	20010111
US 2001-315768P	P	20010830
US 2001-973025	A2	20011010

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9604385	ICM	C12N0015-40
	ICS	C07K0014-18; C07K0016-10; C12Q0001-70; G01N0033-569
	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10 [ICS,6]; C12Q0001-70 [ICS,6]; G01N0033-569 [ICS,6]
	ECLA	C07K014/18F4 <--
CA 2172273	IPCI	C12N0015-51 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10 [ICS,6]; C07K0001-113 [ICS,6]; A61K0039-42 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-577 [ICS,6]; G01N0033-576 [ICS,6] <--
AU 9533824	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10 [ICS,6]; C12Q0001-70 [ICS,6]; G01N0033-569 [ICS,6] <--
EP 721505	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10 [ICS,6]; C12Q0001-70 [ICS,6]; G01N0033-569 [ICS,6] <--
JP 09503396	IPCI	C12P0021-00 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10 [ICS,6]; C12N0001-19 [ICS,6]; C12N0005-10 [ICS,6]; C12N0015-02 [ICS,6]; C12N0015-09 [ICS,6]; C12P0021-02 [ICS,6]; C12P0021-08 [ICS,6]; C12Q0001-70 [ICS,6]; G01N0033-53 [ICS,6]; G01N0033-576 [ICS,6]; C12R0001-865 [ICS,6]; C12R0001-91 [ICS,6]; C12R0001-92 [ICS,6] <--
BR 9506059	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10 [ICS,6]; C12Q0001-70 [ICS,6]; G01N0033-569 [ICS,6] <--
SG 71728	IPCI	C12N0015-51 [ICM,7]; C07K0014-18 [ICS,7]; G01N0033-569 [ICS,7]; C12Q0001-70 [ICS,7]; A61K0039-29 [ICS,7] <--
AT 217345	IPCI	C12N0015-40 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-70 [ICS,7]; G01N0033-569 [ICS,7] <--
EP 1211315	IPCI	C12N0015-40 [ICM,6]; C12N0005-10 [ICS,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-569 [ICS,6]
	ECLA	C07K014/18F4 <--
PT 721505	IPCI	C12N0015-40 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-70 [ICS,7]; G01N0033-569 [ICS,7] <--
ES 2174957	IPCI	C12N0015-40 [ICM,4]; C07K0014-18 [ICS,4]; C07K0016-10 [ICS,4]; C12Q0001-70 [ICS,7]; G01N0033-569 [ICS,7] <--
US 6150134	IPCI	C12N0015-09 [ICM,7]; A61K0039-29 [ICS,7]
	NCL	435/069.300; 424/228.100; 435/069.100; 435/235.100; 435/803.000; 530/350.000
	ECLA	C07K014/18F4 <--
US 6245503	IPCI	C12Q0001-70 [ICM]; G01N0033-53 [ICS]; A61K0039-29 [ICS]
	NCL	435/005.000; 424/204.100; 435/007.100; 435/069.300; 435/810.000; 435/975.000; 530/300.000; 530/350.000
	ECLA	C07K014/18F4 <--
US 6890737	IPCI	C12P0021-06 [ICM,7]; A61K0039-00 [ICS,7]; A61K0039-12 [ICS,7]; C07K0001-00 [ICS,7]
	IPCR	A61K0039-00 [N,C]; A61K0039-00 [N,A]; C07K0014-005 [I,C]; C07K0014-18 [I,A]
	NCL	435/069.300; 424/184.100; 424/204.100; 530/350.000
	ECLA	C07K014/18F4 <--
AU 9957127	IPCI	C07K0014-18 [ICM,7]; C07K0016-10 [ICS,7]; A61K0038-16 [ICS,7] <--
US 2003036110	IPCI	C12P0021-02 [ICM,7]; C12P0021-06 [ICS,7]; C07K0014-01 [ICS,7]

	NCL	435/069.100
	ECLA	C07K014/18F4 <--
US 2002182706	IPCI	C12N0007-02 [ICM,7]; C12P0021-02 [ICS,7]
	NCL	435/239.000
	ECLA	C07K014/18F4 <--
US 2003095980	IPCI	A61K0039-12 [ICM,7]; C12P0021-02 [ICS,7]; C12N0001-18 [ICS,7]
	NCL	424/186.100
	ECLA	C07K014/18F4 <--
JP 2004222729	IPCI	C12N0015-09 [ICM,7]; A61K0038-00 [ICS,7]; A61K0039-00 [ICS,7]; A61K0039-395 [ICS,7]; A61P0001-16 [ICS,7]; A61P0031-12 [ICS,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12N0001-15 [ICS,7]; C12N0001-19 [ICS,7]; C12N0001-21 [ICS,7]; C12N0005-10 [ICS,7]; C12P0021-08 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-576 [ICS,7]; G01N0033-577 [ICS,7]; A61K0039-29 [ICS,7]
	FTERM	4B024/AA01; 4B024/AA14; 4B024/BA33; 4B024/BA51; 4B024/CA04; 4B024/DA01; 4B024/DA02; 4B024/DA05; 4B024/DA11; 4B024/EA02; 4B024/EA04; 4B024/GA11; 4B024/HA03; 4B024/HA08; 4B024/HA15; 4B064/AG27; 4B064/AG33; 4B064/CA02; 4B064/CA05; 4B064/CA10; 4B064/CA11; 4B064/CA12; 4B064/CA19; 4B064/CA20; 4B064/CC24; 4B064/CE11; 4B064/CE12; 4B064/DA01; 4B064/DA15; 4B065/AA01X; 4B065/AA26X; 4B065/AA58X; 4B065/AA87X; 4B065/AA96X; 4B065/AA96Y; 4B065/AB01; 4B065/AB02; 4B065/AC14; 4B065/BA02; 4B065/BA08; 4B065/CA24; 4B065/CA25; 4B065/CA45; 4B065/CA46; 4C084/AA02; 4C084/AA06; 4C084/AA07; 4C084/BA01; 4C084/BA08; 4C084/BA22; 4C084/BA23; 4C084/CA01; 4C084/MA01; 4C084/NA14; 4C084/ZA752; 4C084/ZB052; 4C084/ZB332; 4C085/AA03; 4C085/AA13; 4C085/AA14; 4C085/BA92; 4C085/CC08; 4C085/CC32; 4C085/DD62; 4C085/DD88; 4C085/EE06; 4C085/FF02; 4C085/FF03; 4C085/FF13; 4C085/FF20; 4C085/GG01; 4H045/AA10; 4H045/AA11; 4H045/AA20; 4H045/AA30; 4H045/BA09; 4H045/CA02; 4H045/DA76; 4H045/DA86; 4H045/EA31; 4H045/EA53; 4H045/FA74; 4H045/GA26; 4H045/GA45 <--
US 2004185061	IPCI	C12Q0001-70 [ICM,7]; A61K0039-29 [ICS,7]; C07K0014-02 [ICS,7]
	NCL	424/189.100
	ECLA	C07K014/18F4; C07K016/10N1 <--

AB Envelope proteins **E1** and E2 of **hepatitis C virus** (**HCV**), their recombinant production and purification, their fragments and engineered derivs., their antigenic epitope peptides, their monoclonal antibodies, and their use for diagnostic and therapeutic means are provided. A method is described for purifying recombinant **HCV** single or specific oligomeric envelope proteins, characterized in that upon lysing the transformed host cells to isolate the recombinantly expressed protein a disulfide bond cleavage or reduction step is carried out with a disulfide bond cleavage agent (such as dithiothreitol and/or Empigen BB) and an SH group protecting agent (such as N-ethylmaleimide). Various forms of the **E1** and E2 proteins are constructed by standard genetic techniques using vaccinia **virus** recombination vectors; such proteins are specific for various **HCV** genotypes, may delete the hydrophobic region from **E1**, or remove various glycosylation sites; they may also add factor Xa cleavage sites and His6 tags for improved purification Epitope (such as F, G, H, and I) peptides are used to generate monoclonal antibodies and to monitor disease progression in patients. Furthermore, the **HCV E1** protein and peptides are used for prognosing and monitoring the clin. effectiveness

and/or clin. outcome of **HCV** treatment.

ST **hepatitis C virus** envelope protein; diagnosis **hepatitis C virus** envelope protein; therapeutic **hepatitis C virus** envelope protein; cloning **hepatitis C virus** envelope protein

IT Proteins, specific or class
RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1** (**envelope, 1**); recombinant production and purification of **hepatitis C virus** **envelope** proteins for diagnostic and therapeutic use)

IT Proteins, specific or class
RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(E2 (envelope, 2); recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Antigens
RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(epitopes; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Animal cell line
(mammalian, recombinant expression host; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Yeast
(recombinant expression host; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Immunoassay
Molecular cloning
Vaccines
(recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Nucleic acid hybridization
(reversed phase, immobilization envelope peptides for; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT **Virus, animal**
(vaccinia (recombinant), expression vectors; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Plasmid and Episome
(vaccinia-based expression vectors; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Betaines

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(C12-14-alkyldimethyl, disulfide bond cleavage agent, Empigen-BB; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT **Virus, animal**
(**hepatitis C**, recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT Antibodies
RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal, recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT 128-53-0, N-Ethylmaleimide
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(SH bond blocking agent; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT 166673-21-8 166673-22-9 166673-23-0 166673-30-9 166673-31-0
166673-32-1 166673-43-4 166673-44-5 166673-47-8 166673-50-3
166673-51-4 166774-04-5 176502-01-5 176502-02-6 176591-03-0
RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(antigenic epitope; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT 3483-12-3, Dithiothreitol
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(disulfide bond cleavage agent; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

IT 176742-78-2P 176742-79-3P 176742-80-6P 176742-81-7P 176742-82-8P
176742-83-9P 176742-84-0P 176742-85-1P 176742-86-2P 176742-87-3P
176742-88-4P 176742-89-5P 176742-90-8P 176742-91-9P 176742-92-0P
176742-93-1P 176742-94-2P 176742-95-3P 176742-96-4P 176742-97-5P
RL: BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; recombinant production and purification of **hepatitis C virus** envelope proteins for diagnostic and therapeutic use)

L50 ANSWER 19 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:124913 HCAPLUS
DN 124:258057
ED Entered STN: 29 Feb 1996
TI Lymphoproliferative responses to **hepatitis C virus** core, **E1**, E2, and NS3 in patients with chronic **hepatitis C** infection treated with interferon alpha
AU Leroux-Roels, Geert; Esquivel, Cosme Alvarado; DeLeys, Robert; Stuyver, Lieven; Elewaut, Andre; Philippe, Jan; Desombere, Isabelle; Paradijs, Joseph; **Maertens, Geert**
CS Department Clinical Chemistry, University Hospital, Ghent, B-9000, Belg.
SO Hepatology (Philadelphia) (**1996**), 23(1), 8-16
CODEN: HPTLD9; ISSN: 0270-9139
PB Saunders

DT Journal
LA English
CC 15-5 (Immunochemistry)
AB The quality of the **hepatitis C virus** (**HCV**)-specific T-cell response may greatly determine the course of an **HCV** infection. An adequate T-cell response may contribute to a successful clearance of the **virus** and a rapid recovery from the disease. An inadequate response may lead to **viral** persistence and may eventually contribute to the pathogenesis of hepatocellular damage in chronic disease. The effect of interferon alpha (IFN-α), presently the most popular therapeutic agent for chronic **HCV** infections, on **HCV**-specific T-cell responses is completely unknown. To demonstrate the presence of **HCV**-specific T lymphocytes during chronic **HCV** infections, to know their antigenic specificities, and to examine possible effects of IFN-α treatment on their presence and antigen recognition patterns, we have stimulated peripheral blood mononuclear cells (PBMC) from 35 chronic **HCV** patients with nine pools of synthetic peptides representing the **HCV** Core, **E1**, and E2 proteins as well as with a recombinant NS3 protein. The proliferative responses of PBMC from 16 healthy control subjects toward these antigens were measured for comparison. Lymphoproliferative responses of patients with chronic **HCV** infections were assayed either before (in 10 patients), during (in 13 patients), or after (in 21 patients) treatment with IFN-α. The anal. showed that PBMC from most **HCV** patients consistently recognized the COOH-terminal part of the core protein. **E1**, E2, and NS3 were recognized less frequently. This recognition pattern was not related to the therapy with IFN-α nor to the clin. response of the patient toward this therapy. The response to the Core protein could be fine-mapped to the COOH-terminal region encompassing amino acids (aa) 73 to 92, 121 to 140, 145 to 164, and 157 to 176.
ST interferon alpha **hepatitis C virus** core
IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**E1**, lymphoproliferative responses to **hepatitis C virus** core, **E1**, E2, and NS3 in humans with chronic **hepatitis C** infection treated with interferon alpha)
IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(E2, lymphoproliferative responses to **hepatitis C virus** core, **E1**, E2, and NS3 in humans with chronic **hepatitis C** infection treated with interferon alpha)
IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(NS3, lymphoproliferative responses to **hepatitis C virus** core, **E1**, E2, and NS3 in humans with chronic **hepatitis C** infection treated with interferon alpha)
IT **Virus, animal**
(**hepatitis C**, core proteins; lymphoproliferative responses to **hepatitis C virus** core, **E1**, E2, and NS3 in humans with chronic **hepatitis C** infection treated with interferon alpha)
IT Interferons
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(α, lymphoproliferative responses to **hepatitis C virus** core, **E1**, E2, and NS3 in humans with chronic **hepatitis C** infection treated with interferon alpha)

L50 ANSWER 20 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:89328 HCAPLUS
DN 124:112238
ED Entered STN: 13 Feb 1996
TI **Hepatitis C virus** asialoglycoproteins and their recombinant preparation and clinical applications
IN Ralston, Robert O.; Marcus, Frank; Thudium, Kent B.; Hall, Johh A.; Berger, Kim M.; Choo, Qui-Lim; Houghton, Michael; Kuo, George; Gervase, Barbara A.
PA Chiron Corp., USA
SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-51
ICS C07K0014-18; C07K0001-16; C12N0001-19; G01N0033-569; A61K0039-29
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): **1**
FAN.CNT 8

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PI	WO 9533053	A1	19951207	WO 1995-US6072	19950515 <--
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	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	WO 9115771	A1	19911017	WO 1991-US2225	19910329 <--
	W: AU, BB, BG, BR, CA, FI, GB, HU, JP, KP, KR, LK, MC, MG, MW, NO, PL, RO, SD, SU				
	RW: BF, BJ, CF, CG, CM, GA, ML, MR, SN, TD, TG				
	AU 9176510	A1	19911030	AU 1991-76510	19910329 <--
	AU 639560	B2	19930729		
	GB 2257784	A1	19930120	GB 1992-20480	19910329 <--
	BR 9106309	A	19930420	BR 1991-6309	19910329 <--
	HU 62706	A2	19930528	HU 1992-3146	19910329 <--
	HU 217025	B	19991129		
	JP 05508219	T2	19931118	JP 1991-507636	19910329 <--
	JP 2733138	B2	19980330		
	RO 109916	B1	19950728	RO 1975-92012	19910329 <--
	PL 172133	B1	19970829	PL 1991-296329	19910329 <--
	RU 2130969	C1	19990527	RU 1991-5053084	19910329 <--
	EP 450931	A1	19911009	EP 1991-302910	19910403 <--
	EP 450931	B1	19960612		
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	EP 693687	A1	19960124	EP 1995-114016	19910403 <--
	EP 693687	B1	19990728		
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	AT 139343	E	19960615	AT 1991-302910	19910403 <--
	ES 2088465	T3	19960816	ES 1991-302910	19910403 <--
	AT 182684	E	19990815	AT 1995-114016	19910403 <--
	ES 2134388	T3	19991001	ES 1995-114016	19910403 <--
	FI 106317	B1	20010115	FI 1992-4349	19920928 <--
	NO 9203839	A	19921119	NO 1992-3839	19921001 <--
	NO 310241	B1	20010611		
	LV 10344	B	19960220	LV 1993-4381	19930531 <--
	LT 3808	B	19960325	LT 1993-1747	19931230 <--

	US 6274148	B1	20010814	US 1994-249843	19940526	<--
	US 5712087	A	19980127	US 1995-440519	19950512	<--
	US 6312889	B1	20011106	US 1995-440549	19950512	<--
	AU 9525509	A1	19951221	AU 1995-25509	19950515	<--
	EP 760855	A1	19970312	EP 1995-919838	19950515	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
	JP 10501130	T2	19980203	JP 1996-500912	19950515	<--
	GR 3031361	T3	20000131	GR 1999-402455	19990929	<--
PRAI	US 1994-249843	A	19940526	<--		
	US 1990-504352	A	19900404	<--		
	US 1990-611419	B2	19901108	<--		
	WO 1991-US2225	A	19910329	<--		
	EP 1991-302910	A3	19910403	<--		
	US 1991-758880	B2	19910913	<--		
	US 1992-910760	A3	19920707	<--		
	WO 1995-US6072	W	19950515	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9533053	ICM	C12N0015-51	
	ICS	C07K0014-18; C07K0001-16; C12N0001-19; G01N0033-569; A61K0039-29	
	IPCI	C12N0015-51 [ICM,6]; C07K0014-18 [ICS,6]; C07K0001-16 [ICS,6]; C12N0001-19 [ICS,6]; G01N0033-569 [ICS,6]; A61K0039-29 [ICS,6]	
	ECLA	C07K014/18F4	<--
WO 9115771	IPCI	G01N0033-576 [ICM,5]; C07K0015-00 [ICS,5]	<--
AU 9176510	IPCI	G01N0033-576 [ICM,5]; C07K0015-00 [ICS,5]	<--
GB 2257784	IPCI	G01N0033-576 [ICM,5]; C07K0015-00 [ICS,5]	
	ECLA	C07K014/18F4; G01N033/576F	<--
BR 9106309	IPCI	C07K0015-00 [ICM,5]; G01N0033-576 [ICS,5]	<--
HU 62706	IPCI	G01N0033-576 [ICM]; C07K0001-500 [ICS]	<--
JP 05508219	IPCI	G01N0033-576 [ICM,5]; G01N0033-53 [ICS,5]; C12N0015-51 [ICA,5]; C12N0015-62 [ICA,5]; C12P0021-02 [ICA,5]; C12P0021-02 [ICI,5]; C12R0001-19 [ICI,5]; C12P0021-02 [ICI,5]; C12R0001-865 [ICI,5]	<--
RO 109916	IPCI	A61K0039-29 [ICM,6]; G01N0033-576 [ICS,6]	<--
PL 172133	IPCI	C12P0021-00 [ICM,6]; C12N0015-51 [ICS,6]; G01N0033-576 [ICS,6]	<--
RU 2130969	IPCI	C12N0015-00 [ICM,6]; C12N0015-36 [ICS,6]; G01N0033-53 [ICS,6]	<--
EP 450931	IPCI	G01N0033-576 [ICM,5]; C07K0015-00 [ICS,5]	
	ECLA	C07K014/18F4; G01N033/576F	<--
EP 693687	IPCI	G01N0033-576 [ICM,6]; C07K0014-18 [ICS,6]	
	ECLA	C07K014/18F4; G01N033/576F	<--
AT 139343	IPCI	G01N0033-576 [ICM,6]; C07K0014-02 [ICS,6]	<--
ES 2088465	IPCI	G01N0033-576 [ICM,6]; C07K0014-02 [ICS,6]	<--
AT 182684	IPCI	G01N0033-576 [ICM,6]; C07K0014-18 [ICS,6]	<--
ES 2134388	IPCI	G01N0033-576 [ICM,6]; C07K0014-18 [ICS,6]	<--
FI 106317	IPCI	C12Q0001-70 [ICM,7]; C07K0014-18 [ICS,7]; G01N0033-576 [ICS,7]	<--
NO 9203839	IPCI	G01N0033-00 [ICM,5]	<--
LV 10344	IPCI	A61K0039-29 [ICM,6]; G01N0033-576 [ICS,6]	<--
LT 3808	IPCI	G01N0033-576 [ICM,5]; C07K0015-00 [ICS,5]	<--
US 6274148	IPCI	A61K0039-29 [ICM,7]; C12Q0001-70 [ICS,7]	
	NCL	424/228.100; 424/185.100; 424/204.100; 435/005.000; 435/069.300; 435/069.900; 530/350.000; 530/395.000; 530/826.000; 977/DIG.001	
	ECLA	C07K014/18F4	<--
US 5712087	IPCI	C12Q0001-70 [ICM,6]; G01N0033-576 [ICS,6]	

	NCL	435/005.000; 436/518.000; 436/820.000
	ECLA	G01N033/576F <--
US 6312889	IPCI	C12Q0001-70 [ICM,7]; G01N0033-543 [ICS,7]; G01N0033-545 [ICS,7]; C07K0014-18 [ICS,7]
	NCL	435/005.000; 436/518.000; 436/531.000; 436/820.000; 530/350.000
	ECLA	C07K014/18F4; G01N033/576F <--
AU 9525509	IPCI	C12N0015-51 [ICM,6]; C07K0014-18 [ICS,6]; C07K0001-16 [ICS,6]; C12N0001-19 [ICS,6]; G01N0033-569 [ICS,6]; A61K0039-29 [ICS,6] <--
EP 760855	IPCI	C12N0015-51 [ICM,6]; C07K0014-18 [ICS,6]; C07K0001-16 [ICS,6]; C12N0001-19 [ICS,6]; G01N0033-569 [ICS,6]; A61K0039-29 [ICS,6] <--
JP 10501130	IPCI	C12P0021-02 [ICM]; A61K0035-16 [ICS]; A61K0038-00 [ICS]; A61K0039-29 [ICS]; C07K0014-18 [ICS]; C12N0001-19 [ICS]; C12N0005-10 [ICS]; G01N0033-576 [ICS]; C12N0015-09 [ICS] <--
GR 3031361	IPCI	G01N0033-576 [ICM,7]; C07K0014-18 [ICS,7] <--

AB Two **Hepatitis C Virus** (**HCV**) envelope proteins (**E1** and E2) are expressed without sialylation. Recombinant expression of these proteins in lower eukaryotes, or in mammalian cells in which terminal glycosylation is blocked, results in recombinant proteins which are more similar to native **HCV** glycoproteins. When isolated by GNA lectin affinity, the **E1** and E2 proteins aggregate into **virus**-like particles. The asialoglycoproteins are useful for diagnosis, treatment, and prophylaxis for **HCV** infection.

ST hepatitis C asialoglycoprotein prepn

IT Diagnosis
(**hepatitis C virus** glycoproteins **E1** and E2 lacking glycosylation and their recombinant preparation and clin. applications)

IT Glycoproteins, specific or class
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1**, **hepatitis C virus** glycoproteins **E1** and E2 lacking glycosylation and their recombinant preparation and clin. applications)

IT Glycoproteins, specific or class
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(E2, **hepatitis C virus** glycoproteins **E1** and E2 lacking glycosylation and their recombinant preparation and clin. applications)

IT **Virus, animal**
(**hepatitis C, hepatitis C virus** asialoglycoproteins **E1** and E2 and their recombinant preparation and clin. applications)

IT 11028-71-0, Con A 85764-47-2, GNA
RL: NUU (Other use, unclassified); USES (Uses)
(purification of **hepatitis C virus** glycoproteins **E1** and E2 lacking glycosylation with)

L50 ANSWER 21 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:890196 HCAPLUS
DN 123:308192
ED Entered STN: 02 Nov 1995
TI Mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses
IN Watanabe, Shinichi; Yamaguchi, Julie; Desai, Suresh M.; Devare, Sushil G.

PA Abbott Laboratories, USA
SO PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-57
ICS C12N0015-62; G01N0033-576
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): **1**, 15

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9520664	A2	19950803	WO 1995-US1087	19950127	<--
	WO 9520664	A3	19951228			
	W: AU, CA, JP					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	US 5610009	A	19970311	US 1994-188281	19940128	<--
	CA 2182170	AA	19950803	CA 1995-2182170	19950127	<--
	AU 9516925	A1	19950815	AU 1995-16925	19950127	<--
	EP 741787	A1	19961113	EP 1995-908700	19950127	<--
	EP 741787	B1	20030709			
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL					
	JP 09509052	T2	19970916	JP 1995-520185	19950127	<--
	AT 244762	E	20030715	AT 1995-908700	19950127	<--
	ES 2207645	T3	20040601	ES 1995-908700	19950127	<--
PRAI	US 1994-188281	A	19940128	<--		
	WO 1995-US1087	W	19950127	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9520664	ICM	C12N0015-57
	ICS	C12N0015-62; G01N0033-576
	IPCI	C12N0015-57 [ICM,6]; C12N0015-62 [ICS,6]; G01N0033-576 [ICS,6]
	ECLA	C07K014/18F4; C07K014/47A3 <--
US 5610009	IPCI	C12Q0001-70 [ICM,6]; C07K0016-08 [ICS,6]
	NCL	435/005.000; 436/820.000; 530/388.300; 530/389.400
	ECLA	C07K014/18F4; C07K014/47A3 <--
CA 2182170	IPCI	C12N0015-86 [ICM,6]; C12N0015-62 [ICS,6]; C07K0019-00 [ICS,6]; A61K0039-29 [ICS,6]; A61K0033-576 [ICS,6] <--
AU 9516925	IPCI	C12N0015-57 [ICM,6]; C12N0015-62 [ICS,6]; G01N0033-576 [ICS,6] <--
EP 741787	IPCI	C12N0015-57 [ICM,6]; C12N0015-62 [ICS,6]; G01N0033-576 [ICS,6] <--
JP 09509052	IPCI	C12N0015-09 [ICM,6]; A61K0039-29 [ICS,6]; C07H0021-04 [ICS,6]; C07K0014-18 [ICS,6]; C07K0014-47 [ICS,6]; C07K0019-00 [ICS,6]; C12P0021-02 [ICS,6]; G01N0033-576 [ICS,6]; A61K0039-395 [ICS,6]; C07K0016-08 [ICS,6] <--
AT 244762	IPCI	C12N0015-57 [ICM,7]; C12N0015-62 [ICS,7]; G01N0033-576 [ICS,7] <--
ES 2207645	IPCI	C12N0015-57 [ICM,7]; C12N0015-62 [ICS,7]; G01N0033-576 [ICS,7] <--

AB Mammalian expression systems for the manufacture of fusion proteins of the **E1** and E2 proteins of **hepatitis C virus** are described. These expression systems provide high yields of **HCV** proteins secreted into the medium, and enable the development of diagnostic, vaccine and therapeutic reagents which contain glycosylated structural antigens and also allow for the isolation of the **HCV** etiol. agent. The proteins are manufactured as fusion proteins with amyloid precursor protein. Expression constructs based on the prior

art plasmid pRc/CMV are described. A number of fusion proteins were tested for efficient secretion from HEK-293 cells and only a limited number were successfully secreted.

ST **hepatitis C virus** envelope glycoprotein antigen; **E1** envelope glycoprotein fusion proteins; E2 envelope glycoprotein fusion proteins; amyloid precursor envelope glycoprotein fusion protein; vaccines diagnostics **hepatitis C virus**

IT Immunoassay
(for **hepatitis C virus**; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Vaccines
(**hepatitis C virus**, envelope glycoprotein antigens in; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT **Hepatitis**
(no-A, non-B, vaccines and diagnostics; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Protein sequences
(of **hepatitis C** polyproteins and fusion products with amyloid precursor; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Glycosidation
(of **hepatitis C virus** glycoproteins manufactured in animal cell culture; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Plasmid and Episome
(pHCV-172, gene for fusion protein of amyloid precursor and **hepatitis C virus** envelope protein **E1** on; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Plasmid and Episome
(pHCV-176, gene for fusion protein of amyloid precursor and **hepatitis C virus** envelope protein on; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Plasmid and Episome
(pHCV-351, gene for fusion protein of amyloid precursor and **hepatitis C virus** envelope protein E2 on; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Plasmid and Episome
(pHCV-425, gene for fusion protein of amyloid precursor and **hepatitis C virus** envelope proteins **E1** and E2 on; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Glycoproteins, specific or class
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**E1**, fusion products with amyloid precursor protein; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Glycoproteins, specific or class
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(E2, fusion products with amyloid precursor protein; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Glycoproteins, specific or class
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amyloid A4, pre-, fusion products with **hepatitis C virus E1** and E2 glycoproteins; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT Gene, animal
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(chimeric, for fusion products of **E1** or E2 proteins and amyloid precursor protein; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT **Virus, animal**
(**hepatitis C**, mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

IT 150826-55-4P 169742-62-5P 169742-63-6P 169742-64-7P 169742-65-8P
169742-66-9P 169742-67-0P 169742-68-1P 169742-69-2P 169742-70-5P
169742-71-6P 169742-72-7P 169742-73-8P 169742-74-9P
RL: BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; mammalian expression systems for manufacture of **hepatitis C virus** envelope proteins for therapeutic uses)

L50 ANSWER 22 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:847767 HCAPLUS
DN 124:22843
ED Entered STN: 11 Oct 1995
TI **Hepatitis C virus** genotyping by means of 5'-UR/core line probe assays and molecular analysis of untypeable samples
AU Stuyver, Lieven; Wyseur, Ann; van Arnhem, Wouter; Lunel, Francoise; Laurent-Puig, Pierre; Pawlotsky, Jean-Michel; Kleter, Bernhard; Bassit, Leda; Nkengasong, John; et al.
CS **Innogenetics N.V., Industriepark 7, Box 4, Ghent, B-9052, Belg.**
SO Virus Research (**1995**), 38(2-3), 137-57
CODEN: VIREDF; ISSN: 0168-1702
PB Elsevier
DT Journal
LA English
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 10
AB To test the theor. possibility of 5'-UR mistyping between **hepatitis C virus** subtypes 1a and 1b, a 5'-UR/Core line probe assay (LiPA) was combined with a nested PCR system and 183 sera were retested that had been previously genotyped as type 1a or 1b and originating mainly from Western Europe. Eight percent of these were found to be wrongly subtyped. Based on this method, 3 addnl. subtypes of type 1 were discovered (1d-1f). Randomly selected European type 2 sera were tested with a similar type 2 5'-UR/Core LiPA. They were unexpectedly found to belong to subtype 2c in the majority of cases. Among serum samples originating from SouthEast Asia, several addnl.

genotypes (7a, 7c, 7d, and 9a) were detected which had 5'-UR sequence motifs indistinguishable from genotype 1. Based on 13,203 pairwise comparisons in the 340-bp NS5B region, classification into types, subtypes, and isolates was obtained in 99.8% of all cases by using the phylogenetic border value of 0.328 for subtypes/types and 0.127 for isolates/subtypes; and evidence for a 10th major type of **HCV** was provided. Combination of all available **HCV** sequence data from the 447-bp Core/**E1** region and the NS5B 340-bp and 222-bp regions provided evidence for the existence of 10 types, including 50 subtypes. Previously, extensive studies involving genotypes 1a, 1b, 2a, and 2b indicated the importance of **HCV** subtyping in interferon treatment and progression of chronic liver disease. The herein described expansion in the number of **HCV** types and subtypes should help improve diagnosis, treatment, and possibly prophylaxis of **hepatitis C** liver disease.

ST **hepatitis C virus** genotyping sequence

IT Nucleic acid hybridization
(LiPA (line probe assay) reversed; **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(NS5B (nonstructural, 5B); **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT Genetic methods
(genotyping; **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT Polymerase chain reaction
(**hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT Protein sequences
(of core antigen and glycoprotein **E1** and nonstructural protein NS5B of **hepatitis C virus** genotypes)

IT Glycoproteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(**E1**, **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT Deoxyribonucleic acid sequences
(complementary, for **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT **Virus, animal**
(**hepatitis C**, **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT Antigens
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(**hepatitis C** core, **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT 171761-22-1 171761-23-2 171761-24-3 171761-25-4 171761-26-5 171761-27-6
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(PCR primer; **hepatitis C virus** genotyping

by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT 171759-90-3 171759-91-4 171759-92-5 171759-93-6 171759-94-7
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171760-00-2 171760-01-3 171760-02-4 171760-03-5 171760-04-6
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171760-40-0 171760-41-1 171760-42-2 171760-43-3 171760-44-4
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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT 157607-60-8 157607-61-9 157607-63-1 157607-78-8 157607-81-3
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171761-42-5 171761-43-6 171761-44-7 171761-45-8 171761-46-9
171761-47-0 171761-48-1 171761-49-2 171761-50-5 171761-51-6
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(line assay probe; **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

IT 166163-76-4, GenBank L44599 170814-59-2, GenBank L38346 170814-60-5, GenBank L38347 170814-61-6, GenBank L38348 170814-62-7, GenBank L38349
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170816-10-1, GenBank L44601 170816-11-2, GenBank L44602 170816-12-3, GenBank L44603 170816-13-4, GenBank L44604
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(nucleotide sequence; **hepatitis C virus** genotyping by 5'-UR/core line probe assays and mol. anal. of untypeable samples)

L50 ANSWER 23 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:748816 HCAPLUS
DN 123:141721
ED Entered STN: 22 Aug 1995
TI Immunodominant human T-cell epitopes of **hepatitis C virus**
IN Leroux-Roels, Geert; Deleys, Robert; **Maertens, Geert**
PA **Innogenetics N.V., Belg.**
SO PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-40
ICS A61K0039-12; C07K0014-18
CC 15-2 (Immunochemistry)
Section cross-reference(s): 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9512677	A2	19950511	WO 1994-EP3555	19941028 <--
	WO 9512677	A3	19950727		
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ				
	RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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	AU 9479932	A1	19950523	AU 1994-79932	19941028 <--
	AU 698878	B2	19981112		
	EP 725824	A1	19960814	EP 1994-931000	19941028 <--
	EP 725824	B1	20030409		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09504534	T2	19970506	JP 1995-513004	19941028 <--
	EP 979867	A2	20000216	EP 1999-116673	19941028 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	EP 992580	A2	20000412	EP 1999-116671	19941028 <--
	EP 992580	A3	20000809		
	EP 992580	B1	20050309		
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	PT 725824	T	20030829	PT 1994-931000	19941028 <--
	ES 2197170	T3	20040101	ES 1994-931000	19941028 <--
	AT 274578	E	20040915	AT 1999-116672	19941028 <--
	AT 290592	E	20050315	AT 1999-116671	19941028 <--
	PT 992580	T	20050729	PT 1999-116671	19941028 <--
	ES 2239819	T3	20051001	ES 1999-116671	19941028 <--
	US 6555114	B1	20030429	US 1996-635886	19960425 <--
	US 6613333	B1	20030902	US 1997-974690	19971119 <--
	US 6689368	B1	20040210	US 1997-974685	19971119 <--
	US 2004047877	A1	20040311	US 2003-651165	20030829 <--

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     JP 2004194668        A2    20040715    JP 2004-34983          20040212 <--
PRAI EP 1993-402718       A     19931104  <--
     EP 1994-931000       A3    19941028  <--
     JP 1995-513004       A3    19941028  <--
     WO 1994-EP3555       W     19941028  <--
     US 1996-635886       A3    19960425  <--
     US 1997-974690       A3    19971119  <--
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 9512677      ICM    C12N0015-40
                 ICS    A61K0039-12; C07K0014-18
                 IPCI   C12N0015-40 [ICM,6]; A61K0039-12 [ICS,6]; C07K0014-18
                        [ICS,6]
                 ECLA   C07K014/18F4                                        <--
 CA 2175692      IPCI   C07K0014-18 [ICM,6]; C07K0007-04 [ICS,6]; A61K0039-29
                        [ICS,6]                                             <--
 AU 9479932      IPCI   C12N0015-40 [ICM,6]; A61K0039-12 [ICS,6]; C07K0014-18
                        [ICS,6]                                             <--
 EP 725824       IPCI   C12N0015-40 [ICM,6]; A61K0039-12 [ICS,6]; C07K0014-18
                        [ICS,6]
                 ECLA   C07K014/18; C07K014/18F4                            <--
 JP 09504534     IPCI   C07K0014-18 [ICM]; A61K0039-29 [ICS]; C12N0015-09 [ICS]
                                                                            <--
 EP 979867       IPCI   C12N0015-09 [ICM,6]; C07K0014-18 [ICS,6]; C12N0015-40
                        [ICS,6]; A61K0039-12 [ICS,6]; A61K0039-29 [ICS,6]
                 ECLA   C07K014/18; C07K014/18F4                            <--
 EP 992580       IPCI   C12N0015-09 [ICM,6]; C07K0014-18 [ICS,6]; C12N0015-40
                        [ICS,6]; A61K0039-12 [ICS,6]; A61K0039-29 [ICS,6]
                 ECLA   C07K014/18F4; C07K014/18                            <--
 EP 992581       IPCI   C12N0015-09 [ICM,6]; C07K0014-18 [ICS,6]; C12N0015-40
                        [ICS,6]; A61K0039-12 [ICS,6]; A61K0039-29 [ICS,6]
                 ECLA   C07K014/18F4; C07K014/18                            <--
 AT 236981       IPCI   C12N0015-40 [ICM,7]; A61K0039-12 [ICS,7]; C07K0014-18
                        [ICS,7]                                             <--
 PT 725824       IPCI   C12N0015-40 [ICM,7]; A61K0039-12 [ICS,7]; C07K0014-18
                        [ICS,7]                                             <--
 ES 2197170      IPCI   C12N0015-40 [ICM,4]; A61K0039-12 [ICS,7]; C07K0014-18
                        [ICS,4]                                             <--
 AT 274578       IPCI   C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C12N0015-40
                        [ICS,7]; A61K0039-12 [ICS,7]; A61K0039-29 [ICS,7]   <--
 AT 290592       IPCI   C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C12N0015-40
                        [ICS,7]; A61K0039-12 [ICS,7]; A61K0039-29 [ICS,7]   <--
 PT 992580       IPCI   C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C12N0015-40
                        [ICS,7]; A61K0039-12 [ICS,7]; A61K0039-29 [ICS,7]
                 ECLA   C07K014/18F4                                        <--
 ES 2239819      IPCI   C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C12N0015-40
                        [ICS,7]; A61K0039-12 [ICS,7]; A61K0039-29 [ICS,7]
                 ECLA   C07K014/18F4                                        <--
 US 6555114      IPCI   A61K0039-29 [ICM,7]; C12Q0001-70 [ICS,7]; C07K0014-00
                        [ICS,7]
                 NCL    424/228.100; 435/005.000; 530/324.000
                 ECLA   C07K014/18F4                                        <--
 US 6613333      IPCI   A61K0039-29 [ICM,7]; A61K0039-00 [ICS,7]
                 NCL    424/228.100; 424/184.100; 424/185.100; 424/186.100;
                        424/189.100; 424/192.100; 424/204.100; 435/005.000;
                        435/069.300; 530/300.000; 530/324.000; 530/328.000;
                        530/350.000; 530/826.000
                 ECLA   C07K014/18F4                                        <--
 US 6689368      IPCI   A61K0039-29 [ICM,7]; A61K0039-12 [ICS,7]
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	NCL	424/228.100; 424/185.100; 424/186.100; 424/189.100; 424/192.100; 424/204.100; 435/005.000; 530/300.000; 530/328.000; 530/350.000; 530/806.000; 530/826.000
	ECLA	C07K014/18F4 <--
US 2004047877	IPCI	A61K0039-12 [ICM,7]; C07K0014-18 [ICS,7]
	NCL	424/185.100
	ECLA	C07K014/18F4 <--
JP 2004194668	IPCI	C12N0015-09 [ICM,7]; A61K0039-00 [ICS,7]; A61P0031-14 [ICS,7]; A61P0037-04 [ICS,7]; C07K0014-18 [ICS,7]
	FTERM	4B024/AA01; 4B024/BA31; 4B024/BA33; 4B024/CA04; 4B024/CA11; 4B024/DA06; 4B024/EA02; 4B024/EA04; 4B024/GA11; 4B024/HA08; 4C085/AA03; 4C085/BA87; 4C085/BB11; 4C085/CC32; 4C085/DD51; 4C085/DD62; 4C085/EE01; 4C085/EE10; 4H045/AA10; 4H045/AA20; 4H045/AA30; 4H045/BA09; 4H045/CA02; 4H045/DA86; 4H045/EA31; 4H045/FA74 <--

OS MARPAT 123:141721

AB Immunodominant **hepatitis C virus** (**HCV**) T-cell epitopes useful in **hepatitis C** prophylactic and therapeutic vaccines, derived from the **HCV** core, **E1**, E2, and NS3 proteins, are provided. These **HCV** T-cell epitopes may be used to prepare recombinant polypeptides containing T helper cell (CD4+) epitopes and/or CTL (CD8+) epitopes and used as prophylactics or therapeutics.

ST hepatitis C T lymphocyte stimulating epitope; vaccine hepatitis C

IT Antigens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T-cell epitopes; vaccines as prophylactics or therapeutics containing T-cell epitopes of **hepatitis C virus** and)

IT Vaccines
(vaccines as prophylactics or therapeutics containing T-cell epitopes of **hepatitis C virus**)

IT Proteins, specific or class
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**E1**, of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing T-cell epitopes of)

IT Proteins, specific or class
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(E2, of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing T-cell epitopes of)

IT Proteins, specific or class
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(NS3 (nonstructural, 3), of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing T-cell epitopes of)

IT Lymphocyte
(T-cell, cytotoxic, vaccines as prophylactics or therapeutics containing T-cell epitopes of **hepatitis C virus** and)

IT **Virus, animal**
(**hepatitis C**, vaccines as prophylactics or therapeutics containing T-cell epitopes of **hepatitis C virus**)

IT Antigens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**hepatitis C** core, of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing T-cell epitopes of)

IT 166673-22-9 166673-23-0 166673-24-1 166673-25-2 166673-26-3
166673-27-4 166673-28-5 166673-29-6 166673-30-9 166673-31-0
166673-32-1 166673-33-2 166673-34-3 166673-35-4

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T-cell stimulating epitope of **E1** region of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing)

IT 166673-36-5 166673-37-6 166673-38-7 166673-39-8 166673-40-1
166673-41-2 166673-42-3 166673-43-4 166673-44-5 166673-45-6
166673-46-7 166673-47-8 166673-48-9 166673-49-0 166673-50-3
166673-51-4 166774-03-4 166774-04-5
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T-cell stimulating epitope of E2/NS1 region of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing)

IT 146621-20-7 160926-89-6 166672-85-1 166672-86-2 166672-87-3
166672-88-4 166672-89-5 166672-90-8 166672-91-9 166672-92-0
166672-93-1 166672-94-2 166672-95-3 166672-96-4 166672-97-5
166672-98-6 166672-99-7 166673-00-3 166673-01-4 166673-02-5
166673-03-6 166673-04-7 166673-05-8 166673-06-9 166673-07-0
166673-08-1 166673-09-2 166673-10-5 166774-02-3
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T-cell stimulating epitope of NS3 region of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing)

IT 143966-72-7 143966-74-9 143966-75-0 143966-76-1 166673-11-6
166673-12-7 166673-13-8 166673-14-9 166673-15-0 166673-16-1
166673-17-2 166673-18-3 166673-19-4 166673-20-7 166673-21-8
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T-cell stimulating epitope of core region of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing)

IT 166871-79-0
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T-cell stimulating epitope-containing **E1** region of **hepatitis C virus**; vaccines as prophylactics or therapeutics containing)

IT 166871-80-3 166871-81-4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vaccines as prophylactics or therapeutics containing)

L50 ANSWER 24 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:679666 HCAPLUS
DN 123:277367
ED Entered STN: 15 Jul 1995
TI Sequence analysis of **hepatitis C virus** genotypes 1 to 5 reveals multiple novel subtypes in the Benelux countries
AU van Doorn, L. J.; Kleter, G. E. M.; Stuyver, L.; **Maertens, G.**; Brouwer, J. T.; Schalm, S. W.; Heijtink, R. A.; Quint, W. G. V.
CS Dep. Mol. Biol., Diagnostic Center SSDZ, Delft, 2600 GA, Neth.
SO Journal of General Virology (**1995**), 76(7), 1871-6
CODEN: JGVIAY; ISSN: 0022-1317
PB Society for General Microbiology
DT Journal
LA English
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 10
AB **Hepatitis C virus** (**HCV**) isolates from a cohort of 315 patients from the Benelux countries (Belgium, The Netherlands, Luxembourg) were genotyped by means of reverse hybridization Inno-LiPA (line probe assay). Genotypes 1a, 1b, 2a, 2b, 3a, 4a and 5a were detected. From the cohort, isolates representing all types and those showing an aberrant LiPA pattern were further analyzed by sequencing parts

of the 5' UTR, core (nt 1 to **326**; aa residues 1 to 108) and core/**E1** (nt 477 to 924; aa residues 159 to 308) regions. Mol. evolutionary anal. of the core and core/**E1** regions allowed discrimination between known and addnl. subtypes, especially within types 2 and 4. The core region is not suitable for classification of new subtypes because of the relatively high level of conservation. The core/**E1** region displays a higher level of sequence variation and allows much more distinct discrimiantion between subtypes. Genotypes 2 and 4 are particularly heterogeneous, with at least 7 and 10 subtypes, resp. In contrast to previous reports from Europe, **HCV** isolates from the cohort constituted a highly heterogeneous population of **virus** variants, especially within genotypes 2 and 4.

ST **hepatitis C virus** Benelux country sequence

IT Proteins, specific or class
RL: MSC (Miscellaneous)
(core, sequence anal. of **hepatitis C virus** genotypes 1 to 5 reveals multiple novel subtypes in Benelux countries)

IT Proteins, specific or class
RL: MSC (Miscellaneous)
(gene **E1**, sequence anal. of **hepatitis C virus** genotypes 1 to 5 reveals multiple novel subtypes in Benelux countries)

IT **Virus, animal**
(**hepatitis C**, sequence anal. of **hepatitis C virus** genotypes 1 to 5 reveals multiple novel subtypes in Benelux countries)

IT Ribonucleic acid sequences
(**viral**, of 5'-UTR and core protein gene and **E1** gene regions of **hepatitis C virus** genotypes 1 to 5 of Benelux countries)

IT 150305-00-3, Genbank X58937 150305-01-4, Genbank X58938 150305-02-5, Genbank X58939 150305-03-6, Genbank X58940 150305-04-7, Genbank X58941 150305-05-8, Genbank X58942 150305-06-9, Genbank X58943 150305-07-0, Genbank X58944 150305-08-1, Genbank X58945 150305-09-2, Genbank X58946 150305-10-5, Genbank X58947 150305-11-6, Genbank X58948 150305-12-7, Genbank X58949 150305-13-8, Genbank X58950 150305-14-9, Genbank X58951 150305-15-0, Genbank X58952 150305-16-1, Genbank X58953 152650-63-0, Genbank Z29444 152650-64-1, Genbank Z29445 152650-65-2, Genbank Z29446 152650-66-3, Genbank Z29447 152650-67-4, Genbank Z29448 152650-68-5, Genbank Z29449 152650-69-6, Genbank Z29450 152650-70-9, Genbank Z29451 152650-71-0, Genbank Z29452 152650-72-1, Genbank Z29453 152650-73-2, Genbank Z29469 152650-74-3, Genbank Z29470 152650-75-4, Genbank Z29471 152650-76-5, Genbank Z29472 152650-77-6, Genbank Z29473 152650-78-7, Genbank Z29474 152650-88-9, Genbank Z29454 152650-89-0, Genbank Z29455 152650-90-3, Genbank Z29456 152650-91-4, Genbank Z29457 152650-92-5, Genbank Z29458 152650-93-6, Genbank Z29459 152650-94-7, Genbank Z29460 152650-95-8, Genbank Z29461 152650-96-9, Genbank Z29462 152650-97-0, Genbank Z29463 152650-98-1, Genbank Z29464 152650-99-2, Genbank Z29465 152651-00-8, Genbank Z29466 152651-01-9, Genbank Z29467 152651-02-0, Genbank Z29468 154943-49-4, Genbank X78856 154943-50-7, Genbank X78857 154943-51-8, Genbank X78858 154943-52-9, Genbank X78859 154943-53-0, Genbank X78860 154943-54-1, Genbank X78861 154943-55-2, Genbank X78862 154943-56-3, Genbank X78863 154943-57-4, Genbank X78864 154943-58-5, Genbank X78865 154943-59-6, Genbank X78866 154943-60-9, Genbank X78867 166163-36-6, Genbank L39313 166163-37-7, Genbank L39314 166163-38-8, Genbank L39315 166163-39-9, Genbank L39316 166163-40-2, Genbank L39317 166163-41-3, Genbank L39318 166163-77-5, Genbank L39280 166163-78-6, Genbank L39281 166163-79-7, Genbank L39282 166163-86-6, Genbank L39283 166163-87-7, Genbank L39284 166163-88-8, Genbank L39285 166163-89-9, Genbank L39286 166163-90-2, Genbank L39287 166163-91-3, Genbank L39288

166163-92-4, Genbank L39289 166163-93-5, Genbank L39290 166163-94-6, Genbank L39291 166163-95-7, Genbank L39292 166163-96-8, Genbank L39293 166163-97-9, Genbank L39294 166163-98-0, Genbank L39295 166163-99-1, Genbank L39296 166164-00-7, Genbank L39297 166164-01-8, Genbank L39298 166164-02-9, Genbank L39299 166164-03-0, Genbank L39300 166164-04-1, Genbank L39301 166164-05-2, Genbank L39302 166164-06-3, Genbank L39303 166164-07-4, Genbank L39304 166164-08-5, Genbank L39305 166164-09-6, Genbank L39306 166164-10-9, Genbank L39307 166164-11-0, Genbank L39308 166164-12-1, Genbank L39309 166164-13-2, Genbank L39310 166164-14-3, Genbank L39311 166164-15-4, Genbank L39312
RL: PRP (Properties)
(nucleotide sequence; sequence anal. of **hepatitis C virus** genotypes 1 to 5 reveals multiple novel subtypes in Benelux countries)

L50 ANSWER 25 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:522742 HCAPLUS
DN 122:263521
ED Entered STN: 04 May 1995
TI Nucleotide and amino acid sequences of the **envelope 1** gene of 51 **hepatitis C virus** isolates and the use of reagents derived therefrom as diagnostic reagents and vaccines
IN Bukh, Jens; Miller, Roger H.; Purcell, Robert H.
PA United States Dept. of Health and Human Services, USA
SO PCT Int. Appl., 187 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-51
ICS C07K0014-48; G01N0033-576; A61K0039-29; C12Q0001-68; C12Q0001-70
CC 15-2 (Immunochemistry)
Section cross-reference(s): 3, 10
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9501442	A2	19950112	WO 1994-US7320	19940628	<--
	WO 9501442	A3	19950810			
	W: AU, CA, JP					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	US 5514539	A	19960507	US 1993-86428	19930629	<--
	AU 9473191	A1	19950124	AU 1994-73191	19940628	<--
	US 5871962	A	19990216	US 1995-468570	19950606	<--
	US 6572864	B1	20030603	US 1995-466601	19950606	<--
PRAI	US 1993-86428	A	19930629	<--		
	WO 1994-US7320	W	19940628	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9501442	ICM	C12N0015-51	
	ICS	C07K0014-48; G01N0033-576; A61K0039-29; C12Q0001-68; C12Q0001-70	
	IPCI	C12N0015-51 [ICM,6]; C07K0014-48 [ICS,6]; G01N0033-576 [ICS,6]; A61K0039-29 [ICS,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6]	
	ECLA	C07K014/18F4; C12Q001/70B6A	<--
US 5514539	IPCI	C12Q0001-70 [ICM,6]; C12Q0001-68 [ICS,6]; C12P0019-34 [ICS,6]; C07H0021-04 [ICS,6]	
	NCL	435/005.000; 435/006.000; 435/091.200; 435/810.000; 536/023.100; 536/023.720; 536/024.320; 536/024.330	
	ECLA	C07K014/18F4; C12Q001/70B6A	<--

AU 9473191 IPCI C12N0015-51 [ICM,6]; C07K0014-48 [ICS,6]; G01N0033-576 [ICS,6]; A61K0039-29 [ICS,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6] <--

US 5871962 IPCI C12P0021-06 [ICM,6]; C12Q0001-70 [ICS,6]; C12Q0001-68 [ICS,6]; C07H0021-02 [ICS,6]

NCL 435/069.100; 435/005.000; 435/006.000; 514/046.000; 536/023.100; 536/024.300; 536/024.320

ECLA C07K014/18F4; C12Q001/70B6A <--

US 6572864 IPCI A61K0039-29 [ICM,7]

NCL 424/228.100; 424/093.600; 424/189.100; 435/069.100; 530/300.000; 530/328.000; 530/350.000; 530/826.000; 536/023.100; 977/DIG.001

ECLA C07K014/18F4; C12Q001/70B6A <--

AB The nucleotide and deduced amino acid sequences of 51 cDNAs are disclosed where each cDNA encodes the **envelope 1** gene of an isolate of **hepatitis C virus**. The invention relates to the oligonucleotides, peptides and recombinant **envelope 1** proteins derived from these sequences, and their use in diagnostic methods and vaccines. The isolates were grouped into 12 distinct genotypes.

ST **hepatitis C virus envelope 1** gene; vaccine diagnosis **hepatitis C virus**

IT Protein sequences
Vaccines
(nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT Gene, microbial
RL: PRP (Properties)
(nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT Proteins, specific or class
RL: PRP (Properties)
(gene **E1**, nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT **Virus, animal**
(**hepatitis C**, nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT Ribonucleic acid sequences
(**viral**, nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT 151552-78-2, Protein **E 1** (**hepatitis C virus** strain D1 fragment reduced) 151552-79-3, Protein **E 1** (**hepatitis C virus** strain DK1 fragment reduced) 151552-80-6, Protein **E 1** (**hepatitis C virus** strain DK12 fragment reduced) 151552-81-7, Protein **E 1**

(**hepatitis C virus** strain DK7 fragment reduced) 151552-82-8, Protein **E 1** (**hepatitis C virus** strain DK9 fragment reduced) 151552-83-9, Protein **E 1** (**hepatitis C virus** strain DR4 fragment reduced) 151552-84-0, Protein **E 1** (**hepatitis C virus** strain HK2 fragment reduced) 151552-85-1, Protein **E 1** (**hepatitis C virus** strain HK4 fragment reduced) 151552-86-2, Protein **E 1** (**hepatitis C virus** strain HK8 fragment reduced) 151552-87-3, Protein **E 1** (**hepatitis C virus** strain IND8 fragment reduced) 151552-88-4, Protein **E 1** (**hepatitis C virus** strain S4 fragment reduced) 151552-89-5, Protein **E 1** (**hepatitis C virus** strain S2 fragment reduced) 151552-90-8, Protein **E 1** (**hepatitis C virus** strain S52 fragment reduced) 151552-91-9, Protein **E 1** (**hepatitis C virus** strain S83 fragment reduced) 151552-92-0, Protein **E 1** (**hepatitis C virus** strain SA1 fragment reduced) 151552-93-1, Protein **E 1** (**hepatitis C virus** strain SA13 fragment reduced) 151552-94-2, Protein **E 1** (**hepatitis C virus** strain SA5 fragment reduced) 151552-95-3, Protein **E 1** (**hepatitis C virus** strain SA7 fragment reduced) 151552-96-4, Protein **E 1** (**hepatitis C virus** strain D3 fragment reduced) 151552-97-5, Protein **E 1** (**hepatitis C virus** strain DK11 fragment reduced) 151552-98-6, Protein **E 1** (**hepatitis C virus** strain DK13 fragment reduced) 151552-99-7, Protein **E 1** (**hepatitis C virus** strain DK8 fragment reduced) 151553-00-3, Protein **E 1** (**hepatitis C virus** strain DR1 fragment reduced) 151553-01-4, Protein **E 1** (**hepatitis C virus** strain HK10 fragment reduced) 151553-02-5, Protein **E 1** (**hepatitis C virus** strain HK3 fragment reduced) 151553-03-6, Protein **E 1** (**hepatitis C virus** strain IND5 fragment reduced) 151553-04-7, Protein **E 1** (**hepatitis C virus** strain HK5 fragment reduced) 151553-05-8, Protein **E 1** (**hepatitis C virus** strain P10 fragment reduced) 151553-06-9, Protein **E 1** (**hepatitis C virus** strain S18 fragment reduced) 151553-07-0, Protein **E 1** (**hepatitis C virus** strain S45 fragment reduced) 151553-08-1, Protein **E 1** (**hepatitis C virus** strain S54 fragment reduced) 151553-09-2, Protein **E 1** (**hepatitis C virus** strain S9 fragment reduced) 151553-10-5, Protein **E 1** (**hepatitis C virus** strain SA10 fragment reduced) 151553-11-6, Protein **E 1** (**hepatitis C virus** strain SA4 fragment reduced) 151553-12-7, Protein **E 1** (**hepatitis C virus** strain SA6 fragment reduced) 151553-13-8, Protein **E 1** (**hepatitis C virus** strain SW1 fragment reduced) 151553-14-9, Protein **E 1** (**hepatitis C virus** strain SW3 fragment reduced) 151553-15-0, Protein **E 1** (**hepatitis C**

virus strain T2 fragment reduced) 151553-16-1, Protein **E 1** (**hepatitis C virus** strain T4 fragment reduced) 151553-17-2, Protein **E 1** (**hepatitis C virus** strain T9 fragment reduced) 151553-18-3, Protein **E 1** (**hepatitis C virus** strain US11 fragment reduced) 151553-19-4, Protein **E 1** (**hepatitis C virus** strain Z1 fragment reduced) 151553-20-7, Protein **E 1** (**hepatitis C virus** strain Z6 fragment reduced) 151553-21-8, Protein **E 1** (**hepatitis C virus** strain T10 fragment reduced) 151553-22-9, Protein **E 1** (**hepatitis C virus** strain T8 fragment reduced) 151553-23-0, Protein **E 1** (**hepatitis C virus** strain US10 fragment reduced) 151553-24-1, Protein **E 1** (**hepatitis C virus** strain SW2 fragment reduced) 151553-25-2, Protein **E 1** (**hepatitis C virus** strain T3 fragment reduced) 151553-26-3, Protein **E 1** (**hepatitis C virus** strain US6 fragment reduced) 151553-27-4, Protein **E 1** (**hepatitis C virus** strain Z4 fragment reduced) 151553-28-5, Protein **E 1** (**hepatitis C virus** strain Z7 fragment reduced)
RL: PRP (Properties)
(amino acid sequence; nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT 162588-81-0 162588-82-1 162588-83-2 162588-84-3 162588-85-4
162588-86-5 162588-87-6 162588-88-7 162588-89-8 162588-90-1
162603-26-1 162603-27-2 162603-28-3 162603-29-4 162603-30-7
162603-31-8 162603-32-9 162603-33-0 162603-34-1 162603-35-2
162603-36-3 162603-37-4 162603-38-5 162603-39-6
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**hepatitis C virus envelope 1** protein fragment for detection of antibodies)

IT 151182-50-2, Ribonucleic acid (**hepatitis C virus** strain D3 protein **E 1** fragment-specifying) 151182-51-3, Ribonucleic acid (**hepatitis C virus** strain DK11 protein **E 1** fragment-specifying) 151182-52-4, Ribonucleic acid (**hepatitis C virus** strain DK13 protein **E 1** fragment-specifying) 151182-53-5, Ribonucleic acid (**hepatitis C virus** strain DK8 protein **E 1** fragment-specifying) 151182-54-6, Ribonucleic acid (**hepatitis C virus** strain DR1 protein **E 1** fragment-specifying) 151182-55-7, Ribonucleic acid (**hepatitis C virus** strain HK10 protein **E 1** fragment-specifying) 151182-56-8, Ribonucleic acid (**hepatitis C virus** strain HK3 protein **E 1** fragment-specifying) 151182-57-9, Ribonucleic acid (**hepatitis C virus** strain HK5 protein **E 1** fragment-specifying) 151182-58-0, Ribonucleic acid (**hepatitis C virus** strain IND5 protein **E 1** fragment-specifying) 151182-59-1, Ribonucleic acid (**hepatitis C virus** strain P10 protein **E 1** fragment-specifying) 151182-60-4, Ribonucleic acid (**hepatitis C virus** strain S18 protein **E 1** fragment-specifying) 151182-61-5, Ribonucleic acid (**hepatitis**

C virus strain S45 protein **E 1**
fragment-specifying) 151182-62-6, Ribonucleic acid (**hepatitis**
C virus strain S54 protein **E 1**
fragment-specifying) 151182-63-7, Ribonucleic acid (**hepatitis**
C virus strain S9 protein **E 1**
fragment-specifying) 151182-64-8, Ribonucleic acid (**hepatitis**
C virus strain T8 protein **E 1**
fragment-specifying) 151182-65-9, Ribonucleic acid (**hepatitis**
C virus strain US10 protein **E 1**
fragment-specifying) 151182-66-0, Ribonucleic acid (**hepatitis**
C virus strain US6 protein **E 1**
fragment-specifying) 151182-67-1, Ribonucleic acid (**hepatitis**
C virus strain Z4 protein **E 1**
fragment-specifying) 151182-68-2, Ribonucleic acid (**hepatitis**
C virus strain Z7 protein **E 1**
fragment-specifying) 151182-74-0, Ribonucleic acid (**hepatitis**
C virus strain SA10 protein **E 1**
fragment-specifying) 151182-75-1, Ribonucleic acid (**hepatitis**
C virus strain SA4 protein **E 1**
fragment-specifying) 151182-76-2, Ribonucleic acid (**hepatitis**
C virus strain SA6 protein **E 1**
fragment-specifying) 151182-77-3, Ribonucleic acid (**hepatitis**
C virus strain SW1 protein **E 1**
fragment-specifying) 151182-78-4, Ribonucleic acid (**hepatitis**
C virus strain SW3 protein **E 1**
fragment-specifying) 151182-79-5, Ribonucleic acid (**hepatitis**
C virus strain T2 protein **E 1**
fragment-specifying) 151182-80-8, Ribonucleic acid (**hepatitis**
C virus strain T4 protein **E 1**
fragment-specifying) 151182-81-9, Ribonucleic acid (**hepatitis**
C virus strain T9 protein **E 1**
fragment-specifying) 151182-82-0, Ribonucleic acid (**hepatitis**
C virus strain US11 protein **E 1**
fragment-specifying) 151182-83-1, Ribonucleic acid (**hepatitis**
C virus strain Z1 protein **E 1**
fragment-specifying) 151182-84-2, Ribonucleic acid (**hepatitis**
C virus strain Z6 protein **E 1**
fragment-specifying) 151182-85-3, Ribonucleic acid (**hepatitis**
C virus strain D1 protein **E 1**
fragment-specifying) 151182-86-4, Ribonucleic acid (**hepatitis**
C virus strain DK12 protein **E 1**
fragment-specifying) 151182-87-5, Ribonucleic acid (**hepatitis**
C virus strain DK7 protein **E 1**
fragment-specifying) 151182-88-6, Ribonucleic acid (**hepatitis**
C virus strain DK9 protein **E 1**
fragment-specifying) 151182-89-7, Ribonucleic acid (**hepatitis**
C virus strain DR4 protein **E 1**
fragment-specifying) 151182-90-0, Ribonucleic acid (**hepatitis**
C virus strain HK2 protein **E 1**
fragment-specifying) 151182-91-1, Ribonucleic acid (**hepatitis**
C virus strain HK4 protein **E 1**
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fragment-specifying) 151182-95-5, Ribonucleic acid (**hepatitis**
C virus strain S2 protein **E 1**
fragment-specifying) 151182-96-6, Ribonucleic acid (**hepatitis**

C virus strain S52 protein **E 1**
fragment-specifying) 151182-97-7, Ribonucleic acid (**hepatitis C virus** strain S83 protein **E 1**
fragment-specifying) 151182-98-8, Ribonucleic acid (**hepatitis C virus** strain SA1 protein **E 1**
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fragment-specifying) 151183-00-5, Ribonucleic acid (**hepatitis C virus** strain SA7 protein **E 1**
fragment-specifying) 151183-01-6, Ribonucleic acid (**hepatitis C virus** strain SW2 protein **E 1**
fragment-specifying) 151183-02-7, Ribonucleic acid (**hepatitis C virus** strain T10 protein **E 1**
fragment-specifying) 151183-03-8, Ribonucleic acid (**hepatitis C virus** strain T3 protein **E 1**
fragment-specifying) 151318-94-4 151318-95-5, Ribonucleic acid (**hepatitis C virus** strain SA5 protein **E 1** fragment-specifying)
RL: PRP (Properties)
(nucleotide sequence; nucleotide and amino acid sequences of **envelope 1** gene of 51 **hepatitis C virus** isolates and use of reagents derived therefrom as diagnostic reagents and vaccines)

IT 162775-64-6 162775-65-7 162775-66-8 162775-67-9 162775-68-0
162775-69-1
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(primer for amplification of **hepatitis C virus envelope 1** gene nucleic acid)

IT 162775-70-4 162775-71-5 162775-72-6 162775-73-7 162775-74-8
162775-75-9 162775-76-0 162775-77-1 162775-78-2 162775-79-3
162775-80-6 162775-81-7 162775-82-8 162775-83-9 162775-84-0
162775-85-1 162775-86-2 162775-87-3 162775-88-4 162775-89-5
162775-90-8 162775-91-9 162775-92-0 162775-93-1 162775-94-2
162775-95-3 162775-96-4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(probe for identification of **hepatitis C virus envelope 1** gene nucleic acid)

L50 ANSWER 26 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:394905 HCAPLUS
DN 123:107646
ED Entered STN: 07 Mar 1995
TI Sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents
IN **Maertens, Geert**; Stuyver, Lieven
PA N.V. **Innogenetics** S.A., Belg.
SO PCT Int. Appl., 404 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-51
ICS C12Q0001-68; A61K0039-29; G01N0033-576; C07N0014-18; C12Q0001-70; C07K0016-10
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): **1**, 3, 9
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9425601	A2	19941110	WO 1994-EP1323	19940427 <--
WO 9425601	A3	19950302		

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    AU 9467222          A1   19941121   AU 1994-67222          19940427 <--
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    BR 9405334          A    19990525   BR 1994-5334           19940427 <--
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    EP 984068           A3   20000920
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    FI 9406066          A    19941223   FI 1994-6066           19941223 <--
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    US 2003032005       A1   20030213   US 2001-878281         20010612 <--
    US 6762024          B2   20040713
    US 2003008274       A1   20030109   US 2001-899046         20010706 <--
    JP 2004041206       A2   20040212   JP 2003-272022         20030708 <--
    JP 2004041207       A2   20040212   JP 2003-272151         20030709 <--
PRAI EP 1993-401099     A    19930427  <--
    EP 1993-402019      A    19930805  <--
    EP 1994-915550      A3   19940427  <--
    JP 2001-355654      A3   19940427  <--
    JP 2001-356707      A3   19940427  <--
    WO 1994-EP1323      W    19940427  <--
    US 1995-362455      A1   19950111  <--
    US 2000-638693      A3   20000815
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 9425601       ICM    C12N0015-51
                  ICS    C12Q0001-68; A61K0039-29; G01N0033-576; C07N0014-18;
                         C12Q0001-70; C07K0016-10
                  IPCI   C12N0015-51 [ICM,5]; C12Q0001-68 [ICS,5]; A61K0039-29
                         [ICS,5]; G01N0033-576 [ICS,5]; C07N0014-18 [ICS,5];
                         C12Q0001-70 [ICS,5]; C07K0016-10 [ICS,5]
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 CA 2139100       IPCI   C12N0015-51                                       <--
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 JP 07508423      IPCI   C12N0015-09 [ICM,6]; C07K0014-18 [ICS,6]; C07K0016-10
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EP 984068	IPCI	C12N0015-51 [ICM,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0014-18 [ICS,6]; C12N0015-63 [ICS,6]; C07K0016-10 [ICS,6]; G01N0033-50 [ICS,6]
	ECLA	C07K014/18F4 <--
EP 984067	IPCI	C12N0015-41 [ICM,6]; C07K0014-18 [ICS,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6]; A61K0039-29 [ICS,6]; G01N0033-576 [ICS,6]
	ECLA	C07K014/18F4 <--
EP 1004670	IPCI	C12N0015-40 [ICM,6]; C07K0014-18 [ICS,6]; A61K0039-29 [ICS,6]; C12Q0001-68 [ICS,6]; C12Q0001-70 [ICS,6]; G01N0033-576 [ICS,6]; C07K0016-10 [ICS,6]
	ECLA	C07K014/18F4 <--
NO 9404967	IPCI	C12N0015-51 [ICM,5]; C12Q0001-68 [ICS,5]; C12Q0001-70 [ICS,5]; C07K0014-18 [ICS,5]; C07K0016-10 [ICS,5]; G01N0033-576 [ICS,5] <--
FI 9406066	IPCI	A61K [ICM,5]; C12N [ICS,5]; C07K [ICS,5]; G01N [ICS,5] <--
US 2003064360	IPCI	C12Q0001-70; C07H0021-04; C12N0007-00; C12P0021-02; C12N0005-06; C12N0015-86
	NCL	435/005.000
	ECLA	C07K014/18F4 <--
US 2003032005	IPCI	C12Q0001-70 [ICM,7]; C07H0021-04 [ICS,7]; A61K0039-245 [ICS,7]; C12N0007-00 [ICS,7]
	NCL	435/005.000
	ECLA	C07K014/18F4 <--
US 2003008274	IPCI	C12Q0001-70; C07H0021-04; A61K0039-29; A61K0048-00
	NCL	435/005.000
	ECLA	C07K014/18F4 <--
JP 2004041206	IPCI	C12N0015-09 [ICM,7]; A61K0039-395 [ICS,7]; A61P0031-14 [ICS,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-566 [ICS,7]; G01N0033-576 [ICS,7]
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JP 2004041207	IPCI	C12N0015-09 [ICM,7]; A61K0031-711 [ICS,7]; A61K0038-00 [ICS,7]; A61P0031-20 [ICS,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-68 [ICS,7]; C12Q0001-70 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-566 [ICS,7]; G01N0033-576 [ICS,7]
	FTERM	4B024/AA01; 4B024/AA11; 4B024/BA33; 4B024/CA04; 4B024/DA02; 4B024/EA03; 4B024/EA04; 4B024/EA06; 4B063/QA01; 4B063/QA19; 4B063/QQ42; 4B063/QR32; 4B063/QR55; 4B063/QR62; 4B063/QS34; 4C084/AA01; 4C084/BA01; 4C084/BA22; 4C084/BA35; 4C084/NA14; 4C084/ZB331; 4C086/AA01; 4C086/EA16; 4C086/MA01; 4C086/MA04; 4C086/NA14; 4C086/ZB33; 4H045/AA10; 4H045/AA11; 4H045/AA30; 4H045/BA10; 4H045/CA02;

4H045/DA75; 4H045/DA86; 4H045/EA50 <--

AB Sequences derived from a number of regions of the genome of a number of isolates of **hepatitis C virus** and the proteins encoded by them are described for use in therapeutics and diagnostics. These regions include positions 417 to 957 of the Core/**E1** region; positions 4892 to 5292 of the NS3/4 region; positions 8023 to 8235 of the NS5 region of the BR36 subgroup of **HCV** type 3a; the coding region of **HCV** type 4a starting a nucleotide 379 in the core region; the coding region of **HCV** type 4; the coding region of HCB type 5. These regions contain nucleotide substitutions that differentiate them from type 1 and type 2 strains. The development of nucleic acid and reagent antibody probes from serum samples was demonstrated.

ST **hepatitis C virus** typing hybridization antibody

IT Genetic polymorphism
(in typing of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Ribonucleic acid sequences
(of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Ribonucleic acids, **viral**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Protein sequences
(of proteins of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Immunoassay
Nucleic acid hybridization
(sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Proteins, specific or class
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**E1**, of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(NS3 (nonstructural, 3), of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Glycoproteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(NS4 (nonstructural, 4), of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)

(NS5 (nonstructural, 5), of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT **Virus, animal**
(**hepatitis C**, sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT 138159-70-3 146157-88-2 149460-61-7 161757-29-5 161757-30-8
161757-31-9 161757-32-0 161757-33-1 161757-34-2 161757-35-3
161757-36-4 161757-37-5 161757-38-6 161757-39-7 161757-40-0
161757-41-1 161757-42-2 161757-43-3 161757-44-4 161757-45-5
161757-46-6 161757-47-7 161757-48-8
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(PCR primer for detection of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT 161337-95-7 161338-12-1 161338-14-3 161338-16-5 161338-18-7
161338-20-1 161338-22-3 161338-23-4 161338-24-5 161338-25-6
161338-27-8 161338-28-9
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence, peptide variant of **hepatitis C virus** type 3; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT 161338-13-2 161338-15-4 161338-17-6 161338-19-8 161338-21-2
161338-29-0 161338-31-4 161338-32-5
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence, peptide variant of **hepatitis C virus** type 5; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT 161337-68-4 161337-70-8 161338-02-9 161338-33-6 161338-34-7
161338-41-6 161338-42-7 161338-43-8 161338-44-9 161338-45-0
161338-46-1 161338-47-2 161338-48-3 161376-67-6
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence, peptide variant of **hepatitis C virus**; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

IT 148579-31-1, Deoxyribonucleic acid (**hepatitis C virus** type 3a clone BR36-20 protein NS 4a fragment-specifying)
148790-42-5, Protein NS 4a (**hepatitis C virus** type 3a clone HD10-1 fragment reduced) 155117-20-7 155117-21-8
155117-22-9 155117-23-0 155117-26-3 155117-29-6 155117-33-2
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161338-04-1 161338-05-2 161338-06-3 161338-07-4 161338-08-5
161338-09-6 161338-10-9 161338-11-0 161338-26-7 161338-30-3

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161738-29-0, 1-166-Protein, poly- (**hepatitis C
virus**) 161738-31-4 161738-32-5 161738-33-6 161738-34-7
161738-35-8 161738-36-9 161738-37-0 161738-38-1 161738-39-2
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161738-70-1 161738-71-2 161738-72-3 161738-73-4 161738-74-5
161738-75-6 161738-76-7
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; sequences from **hepatitis C
virus** genomes and their use in the development of diagnostic
and therapeutic agents)

IT 148790-35-6, Glycoprotein **E 1** (**hepatitis
C virus** type 3c clone HD10-2 fragment reduced)
148790-36-7, Glycoprotein **E 1** (**hepatitis
C virus** type 3a clone BR36-9 fragment reduced)
148790-37-8, Glycoprotein **E 1** (**hepatitis
C virus** type 3a clone BR33-1 fragment reduced)
158539-67-4 161737-78-6 161737-80-0 161737-81-1 161737-83-3
161737-85-5 161737-89-9 161737-90-2 161737-92-4 161737-94-6
161737-97-9 161737-99-1 161738-01-8
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
(Uses)
(amino acid sequence; sequences from **hepatitis C
virus** genomes and their use in the development of diagnostic
and therapeutic agents)

IT 155117-53-6 155117-55-8 155117-57-0 155117-60-5 155117-62-7
155117-69-4 155117-71-8 161738-14-3 161738-16-5 161738-18-7
161738-20-1 161738-24-5 161738-26-7 161738-28-9 161738-30-3
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES (Uses)
(nucleotide sequence; sequences from **hepatitis C
virus** genomes and their use in the development of diagnostic
and therapeutic agents)

IT 148579-28-6, Ribonucleic acid (**hepatitis C
virus** type 3a clone BR33-1 glycoprotein **E 1**
fragment-specifying) 148579-29-7, Ribonucleic acid (**hepatitis
C virus** type 3a clone BR36-9 glycoprotein **E
1** fragment-specifying) 148579-30-0, Ribonucleic acid (
hepatitis C virus type 3c clone HD10-2
glycoprotein **E 1** fragment-specifying) 148579-32-2,
Deoxyribonucleic acid (**hepatitis C virus**
type 3a clone HD10-1 protein NS 4a fragment-specifying) 148579-33-3,
Deoxyribonucleic acid (**hepatitis C virus**
clone BR33-2 protein NS 5 fragment-specifying) 148579-34-4
148579-35-5, Deoxyribonucleic acid (**hepatitis C
virus** clone BR36-23 protein NS 5 fragment-specifying)
161737-79-7 161737-82-2 161737-84-4 161737-86-6 161737-87-7
161737-88-8 161737-91-3 161737-93-5 161737-95-7 161737-96-8
161737-98-0 161738-00-7 161738-02-9 161738-03-0 161738-04-1
161738-05-2 161738-06-3 161738-07-4 161738-08-5 161738-77-8
161738-78-9 161738-79-0

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; sequences from **hepatitis C virus** genomes and their use in the development of diagnostic and therapeutic agents)

L50 ANSWER 27 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1994:696927 HCAPLUS
DN 121:296927
ED Entered STN: 24 Dec 1994
TI Classification of **hepatitis C viruses** based on phylogenetic analysis of the **envelope 1** and nonstructural 5B regions and identification of five additional subtypes
AU Stuyver, Lieven; Arnhem, Wouter Van; Wyseur, Ann; Hernandez, Francisco; Delaporte, Eric; **Maertens, Geert**
CS **Innogenetics, Ghent, B-9052, Belg.**
SO Proceedings of the National Academy of Sciences of the United States of America (**1994**), 91(21), 10134-8
CODEN: PNASA6; ISSN: 0027-8424
DT Journal
LA English
CC 10-4 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 3, 6
AB Genotyping of **hepatitis C virus**-pos. sera by a line probe assay indicated that <3% of European samples, but up to 30% of Galbonese sera, could not be classified as either 1a, 1b, 2a, 2b, 3a, 3b, 4c, 5a, or 6a. Such samples were analyzed in the 5' untranslated region and in the nonstructural 5 (NS5) region. Classification based on phylogenetic anal. of the commonly used 223-bp long NS5B region was possible for most but not all of the selected sera. Therefore, the core/**envelope 1** region (579 bp) and a larger NS5B (340 bp) region were also analyzed. Only the phylogenetic anal. of the 340-bp NS5B region of these newly identified and published isolates provided unambiguous classification into types and subtypes. Furthermore, unequivocal evidence for 4 subtypes in type 2 and 8 subtypes in type 4 was provided. A specific recognition sequence in the 5' untranslated region was observed for every newly identified subtype. Based on 1830 pair-wise comparisons in NS5B, isolates belonging to the same subtype showed evolutionary distances of <0.127 and isolates of the same type exhibited evolutionary distances of <0.328. These phylogenetic border distances can be conveniently used for classification of **hepatitis C virus** isolates into types and subtypes.
ST **hepatitis C virus** genotyping sequence; RNA sequence **hepatitis C virus** genotyping; protein sequence **hepatitis C virus** genotyping
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(NS5b (nonstructural, 5b); classification of **hepatitis C viruses** based on phylogenetic anal. of **envelope 1** and nonstructural 5B regions)
IT Evolution
Taxonomy
(of **hepatitis C viruses** based on phylogenetic anal. of **envelope 1** and nonstructural 5B regions)
IT Protein sequences
(of **hepatitis C viruses envelope 1** and nonstructural 5B regions)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(**E1**, classification of **hepatitis C viruses** based on phylogenetic anal. of **envelope 1** and nonstructural 5B regions)
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(core, classification of **hepatitis C viruses** based on phylogenetic anal. of **envelope 1** and nonstructural 5B regions)
IT **Virus, animal**
(**hepatitis C**, classification of **hepatitis C viruses** based on phylogenetic anal. of **envelope 1** and nonstructural 5B regions)
IT Ribonucleic acid sequences
(**viral**, of **hepatitis C viruses envelope 1** and nonstructural 5B and 5'-UTR regions)
IT 155117-17-2 155117-18-3 155117-19-4 155117-20-7 155117-21-8
155117-22-9 155117-23-0 155117-24-1 155117-25-2 155117-26-3
155117-27-4 155117-28-5 155117-29-6 155117-30-9 155117-31-0
155117-32-1 155117-33-2 155117-34-3 155117-35-4 155117-36-5
155117-37-6 155117-38-7 155117-39-8 155117-40-1 155117-41-2
155117-42-3 155117-43-4 155117-44-5 155117-45-6 155117-46-7
155117-47-8 155117-48-9 155117-49-0 155117-50-3 155117-51-4
155117-52-5 155117-53-6 155117-54-7 155117-55-8 155117-56-9
155117-57-0 155117-58-1 155117-59-2 155117-60-5 155117-61-6
155117-62-7 155117-63-8 155117-64-9 155117-65-0 155117-66-1
155117-67-2 155117-68-3 155117-69-4 155117-70-7 155117-71-8
155117-72-9 155117-73-0
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; classification of **hepatitis C viruses** based on phylogenetic anal. of **envelope 1** and nonstructural 5B regions)

L50 ANSWER 28 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1994:647634 HCAPLUS
DN 121:247634
ED Entered STN: 26 Nov 1994
TI Cloning and phylogenetic analysis of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+
AU Stuyver, Lieven; Van Arnhem, Wouter; Wyseur, Ann; **Maertens, Geert**
CS **Innogenetics N. V., Ghent, B-9052, Belg.**
SO Biochemical and Biophysical Research Communications (**1994**), 202(3), 1308-14
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 6, 10
AB By means of the Line Probe Assay, a **hepatitis C virus** type 5a infected serum from a Belgian patient was selected. The complete core region (573 bp), the carboxyterminal part of **E1** and the aminoterminal part of E2/NS1 (661 bp), and an epitope containing region in NS3-NS4 (1452 bp) were cloned and sequenced. The deduced amino acid sequence revealed type-specific variations in regions of core and NS4 which were previously recognized as evoking a type-specific antibody response. In addition, the aminoterminal region of E2 showed high

variability when compared with sequences of type 1,2, and 3. Phylogenetic anal. showed sep. branching of this isolate. The anal. in the core region was not conclusive for some of the strains included and should therefore be carried out in combination with the NS5B region.

ST **hepatitis C virus** RNA sequence evolution; protein sequence **hepatitis C virus**

IT Protein sequences
(of the core, E2, and NS3/NS4 proteins of the **hepatitis C virus** type 5a+)

IT Gene, microbial
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(**E1**, sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(E2, sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(NS3, sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(NS4 (nonstructural, 4), sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT **Virus, animal**
(**hepatitis C**, type 5a+; sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT Antigens
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(**hepatitis C** core, type 5a+; sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT Evolution
(mol., sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT Ribonucleic acid sequences
(**viral**, of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

IT 158539-61-8 158539-62-9 158539-63-0 158539-64-1 158539-65-2
158539-66-3 158539-67-4 158539-68-5 158539-69-6
RL: PRP (Properties)
(amino acid sequence; sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C**

virus type 5a+)
IT 155117-38-7 155117-39-8 155117-40-1
RL: PRP (Properties)
(nucleotide sequence; sequence and phylogenetic anal. of the core, E2, and NS3/NS4 regions of the **hepatitis C virus** type 5a+)

L50 ANSWER 29 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1994:215333 HCAPLUS
DN 120:215333
ED Entered STN: 30 Apr 1994
TI Immunoassays for anti-**hepatitis C virus** (**HCV**) antibodies using antigens with conformational epitopes
IN Chien, David Y.
PA Chiron Corp., USA
SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N0033-576
CC 15-2 (Immunochemistry)
Section cross-reference(s): 9
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9401778	A1	19940120	WO 1993-US6309	19930702	<--
	W: AU, CA, CZ, FI, HU, JP, NO, PL, RU, SK, UA					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	AU 9346629	A1	19940131	AU 1993-46629	19930702	<--
	AU 685059	B2	19980115			
	EP 649537	A1	19950426	EP 1993-916942	19930702	<--
	EP 649537	B1	20020424			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
	JP 07509060	T2	19951005	JP 1994-503440	19930702	<--
	JP 3490085	B2	20040126			
	HU 70473	A2	19951030	HU 1995-8	19930702	<--
	PL 174686	B1	19980831	PL 1993-307178	19930702	<--
	RU 2126158	C1	19990210	RU 1994-46284	19930702	<--
	AT 216779	E	20020515	AT 1993-916942	19930702	<--
	ES 2171414	T3	20020916	ES 1993-916942	19930702	<--
	PT 649537	T	20020930	PT 1993-916942	19930702	<--
	CA 2139645	C	20030211	CA 1993-2139645	19930702	<--
	CZ 291951	B6	20030618	CZ 1995-6	19930702	<--
	JP 2003329687	A2	20031119	JP 2003-109573	19930702	<--
	SK 284556	B6	20050602	SK 1995-4	19930702	<--
	NO 9500006	A	19950224	NO 1995-6	19950102	<--
	FI 9500002	A	19950227	FI 1995-2	19950102	<--
	US 2002150883	A1	20021017	US 2001-920879	20010802	<--
PRAI	US 1992-910759	A	19920707	<--		
	JP 1994-503440	A3	19930702	<--		
	WO 1993-US6309	A	19930702	<--		
	US 1994-334460	A1	19941104	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9401778	ICM	G01N0033-576	
	IPCI	G01N0033-576 [ICM,5]	<--
AU 9346629	IPCI	G01N0033-576 [ICM,5]	<--
EP 649537	IPCI	G01N0033-576 [ICM,6]	<--
JP 07509060	IPCI	G01N0033-569; G01N0033-576	<--

HU 70473	IPCI	G01N0033-576 [ICM,5]	<--
PL 174686	IPCI	G01N0033-576 [ICM,6]	<--
RU 2126158	IPCI	G01N0033-576 [ICM,6]; A61K0039-29 [ICS,6]; C07K0014-18 [ICS,6]	<--
AT 216779	IPCI	G01N0033-576 [ICM,7]	<--
ES 2171414	IPCI	G01N0033-576 [ICM,7]	<--
PT 649537	IPCI	G01N0033-576 [ICM,7]	<--
CA 2139645	IPCI	G01N0033-576 [ICM,6]	<--
CZ 291951	IPCI	G01N0033-576 [ICM,7]	<--
JP 2003329687	IPCI	G01N0033-576 [ICM,7]; C12N0015-09 [ICS,7]	<--
SK 284556	IPCI	G01N0033-576 [ICM,7]	<--
NO 9500006	IPCI	G01N0033-576 [ICM,6]	<--
FI 9500002	IPCI	G01N	<--
US 2002150883	IPCI	C12Q0001-70 [ICM,7]; C12N0007-00 [ICS,7]; C12N0015-00 [ICS,7]; C12N0015-63 [ICS,7]; C12N0015-74 [ICS,7]; C07K0014-00 [ICS,7]; G01N0033-53 [ICS,7]; C12N0015-09 [ICS,7]; C07K0001-00 [ICS,7]; C12N0007-01 [ICS,7]; C12N0015-70 [ICS,7]; C07K0017-00 [ICS,7]	
	NCL	435/005.000	
	ECLA	G01N033/576F	<--

AB Immunoassay methods utilizing **HCV** envelope antigens that contain conformational epitopes reactive with antibodies in serum from infected individuals are useful for screening and diagnosis. These antigens detect antibodies that are not detected by denatured **HCV** envelope antigens. In addition, these **HCV** envelope antigens comprised of conformational epitopes are more immunol. reactive than a number of other **HCV** antigens. This is the first evidence that conformational epitopes may be involved in the immunol. response to **HCV** antigens. Preparation of **E1** and E2 envelope antigens with recombinant vaccinia virus is also shown.

ST hepatitis C diagnosis immuno conformation epitope

IT Antibodies
RL: BIOL (Biological study)
(to **hepatitis C virus**, immunoassay of, antigens with conformational epitopes for)

IT Antigens
RL: PREP (Preparation)
(**E1**, recombinant preparation of, for immunoassays for anti-**hepatitis C virus** antibodies)

IT Antigens
RL: PREP (Preparation)
(E2, recombinant preparation of, for immunoassays for anti-**hepatitis C virus** antibodies)

IT **Virus, animal**
(**hepatitis C**, antibody to, immunoassay of, antigens with conformational epitopes for)

IT **Virus, animal**
(vaccinia, recombinant, **E1** and E2 antigens of **hepatitis C virus** (**HCV**) produced with, for immunoassay of antibodies to **HCV**)

L50 ANSWER 30 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1993:515326** HCAPLUS
DN 119:115326
ED Entered STN: 18 Sep 1993
TI Immunoreactive **hepatitis C virus** polypeptide compositions
IN Weiner, Amy J.; Houghton, Michael
PA Chiron Corp., USA
SO PCT Int. Appl., 105 pp.

CODEN: PIXXD2
DT Patent
LA English
IC ICM C07K0005-00
ICS C07K0013-00; A61K0039-12; C12Q0001-70; C07H0015-12; C12N0001-20; C12P0021-00
CC 15-2 (Immunochemistry)
Section cross-reference(s): **63**

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9306126	A1	19930401	WO 1992-US7683	19920911	<--
	W: AU, BG, CA, CS, FI, HU, JP, PL, RO, RU					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE					
	AU 9226436	A1	19930427	AU 1992-26436	19920911	<--
	AU 679429	B2	19970703			
	EP 608261	A1	19940803	EP 1992-919917	19920911	<--
	EP 608261	B1	20021127			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE					
	JP 06511149	T2	19941215	JP 1992-506119	19920911	<--
	HU 67342	A2	19950328	HU 1994-741	19920911	<--
	PL 171489	B1	19970530	PL 1992-302729	19920911	<--
	PL 171972	B1	19970731	PL 1992-313797	19920911	<--
	RU 2136311	C1	19990910	RU 1994-24561	19920911	<--
	CA 2116764	C	19991207	CA 1992-2116764	19920911	<--
	RO 116199	B1	20001130	RO 1994-391	19920911	<--
	JP 2002167336	A2	20020611	JP 2001-211447	19920911	<--
	AT 228564	E	20021215	AT 1992-919917	19920911	<--
	ES 2182822	T3	20030316	ES 1992-919917	19920911	<--
	RU 2212899	C2	20030927	RU 1998-117084	19920911	<--
	BG 62973	B1	20001229	BG 1994-98653	19940311	<--
	FI 9401199	A	19940427	FI 1994-1199	19940314	<--
	FI 112438	B1	20031215			
	US 5756312	A	19980526	US 1994-231368	19940419	<--
	US 5670152	A	19970923	US 1995-440103	19950512	<--
	US 5670153	A	19970923	US 1995-440542	19950512	<--
	US 5766845	A	19980616	US 1995-440210	19950512	<--
	US 5728520	A	19980317	US 1995-471498	19950606	<--
	US 6303292	B1	20011016	US 1998-46604	19980324	<--
	JP 2004073207	A2	20040311	JP 2003-326811	20030918	<--
	JP 2005176853	A2	20050707	JP 2005-20454	20050127	<--
PRAI	US 1991-759575	A	19910913	<--		
	JP 1993-506119	A3	19920911	<--		
	JP 2001-211447	A3	19920911	<--		
	RU 1992-24561	A	19920911	<--		
	WO 1992-US7683	A	19920911	<--		
	US 1994-231368	A3	19940419	<--		
	JP 2003-326811	A3	20030919			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9306126	ICM	C07K0005-00
	ICS	C07K0013-00; A61K0039-12; C12Q0001-70; C07H0015-12; C12N0001-20; C12P0021-00
	IPCI	C07K0005-00 [ICM,5]; C07K0013-00 [ICS,5]; A61K0039-12 [ICS,5]; C12Q0001-70 [ICS,5]; C07H0015-12 [ICS,5]; C12N0001-20 [ICS,5]; C12P0021-00 [ICS,5] <--
AU 9226436	IPCI	C07K0005-00 [ICM,5]; C07K0013-00 [ICS,5]; A61K0039-12 [ICS,5]; C12Q0001-70 [ICS,5]; C07H0015-12 [ICS,5]; C12N0001-20 [ICS,5]; C12P0021-00 [ICS,5] <--

EP 608261	IPCI	C07K0005-00 [ICM,5]; C07K0013-00 [ICS,5]; A61K0039-12 [ICS,5]; C12Q0001-70 [ICS,5]; C07H0015-12 [ICS,5]; C12N0001-20 [ICS,5]; C12P0021-00 [ICS,5] <--
JP 06511149	IPCI	C12P0021-02 [ICM,5]; A61K0039-29 [ICS,5]; A61K0039-395 [ICS,5]; C07K0015-12 [ICS,5]; C12N0015-51 [ICS,5]; C12P0021-08 [ICS,5]; G01N0033-53 [ICS,5]; G01N0033-576 [ICS,5]; C12Q0001-70 [ICA,5] <--
HU 67342	IPCI	A61K0039-29 [ICM,5]; C07K0016-08 [ICS,5]; C12N0015-51 [ICS,5]; G01N0033-53 [ICS,5] <--
PL 171489	IPCI	A61K0039-12 [ICM,6]; A61K0039-29 [ICS,6] <--
PL 171972	IPCI	C12P0021-00 [ICM,6]; C07K0014-10 [ICS,6]; C12N0001-20 [ICS,6] <--
RU 2136311	IPCI	A61K0039-12 [ICM,6]; C12N0015-51 [ICS,6]; G01N0033-53 [ICS,6]; G01N0033-576 [ICS,6] <--
CA 2116764	IPCI	C12N0015-51 [ICM,6]; C07K0016-10 [ICS,6]; A61K0039-29 [ICS,6]; A61K0039-42 [ICS,6]; G01N0033-576 [ICS,6] <--
RO 116199	IPCI	C07K0005-00 [ICM,7]; A61K0039-12 [ICS,7] <--
JP 2002167336	IPCI	A61K0039-29 [ICM,7]; A61P0031-12 [ICS,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12N0001-15 [ICS,7]; C12N0001-19 [ICS,7]; C12N0001-21 [ICS,7]; C12N0005-10 [ICS,7]; C12N0015-09 [ICS,7]; C12P0021-02 [ICS,7]; G01N0033-576 [ICS,7] <--
AT 228564	IPCI	C12N0015-51 [ICM,7]; A61K0039-29 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0014-08 [ICS,7] <--
ES 2182822	IPCI	C12N0015-51 [ICM,4]; A61K0039-29 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0014-08 [ICS,4] <--
RU 2212899	IPCI	A61K0039-29 [ICM,7]; C12N0015-62 [ICS,7]; C12N0015-11 [ICS,7]; C12N0015-51 [ICS,7]; C07K0014-18 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0033-576 [ICS,7] <--
BG 62973	IPCI	C07K0005-00 [ICM,7]; C07K0014-00 [ICS,7]; A61K0039-12 [ICS,7]; C12Q0001-70 [ICS,7]; C07H0015-12 [ICS,7]; C12N0001-20 [ICS,7]; C12P0021-00 [ICS,7] <--
FI 9401199	IPCI	A61K [ICM,5]; G01N [ICS,5] <--
US 5756312	IPCI	C12N0015-51 [ICM,6]; A61K0039-29 [ICS,6]; C12Q0001-70 [ICS,6]; C07K0014-18 [ICS,6]
	NCL	435/069.300; 424/184.100; 424/185.100; 424/189.100; 424/192.100; 424/204.100; 424/228.100; 435/325.000; 530/350.000; 530/826.000; 536/023.400; 536/023.720
	ECLA	C07K014/18F4 <--
US 5670152	IPCI	A61K0039-29 [ICM,6]; C12Q0001-70 [ICS,6]; C07K0014-18 [ICS,6]
	NCL	424/189.100; 424/228.100; 435/005.000; 530/350.000
	ECLA	C07K014/18F4 <--
US 5670153	IPCI	A61K0039-29 [ICM,6]; C12Q0001-70 [ICS,6]; C07K0014-18 [ICS,6]
	NCL	424/189.100; 424/228.100; 435/005.000; 530/350.000
	ECLA	C07K014/18F4 <--
US 5766845	IPCI	C12Q0001-70 [ICM,6]; A61K0039-00 [ICS,6]; A61K0039-29 [ICS,6]; C07K0011-18 [ICS,6]
	NCL	435/005.000; 424/184.100; 424/185.100; 424/189.100; 424/204.100; 424/228.100; 530/300.000; 530/324.000
	ECLA	C07K014/18F4 <--
US 5728520	IPCI	C12Q0001-70 [ICM,6]; C07K0014-18 [ICS,6]
	NCL	435/005.000; 530/350.000
	ECLA	C07K014/18F4 <--
US 6303292	IPCI	C12Q0001-70 [ICM,7]; C07K0014-18 [ICS,7]
	NCL	435/005.000; 436/820.000; 530/350.000
	ECLA	C07K014/18F4 <--
JP 2004073207	IPCI	C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12N0001-15 [ICS,7]; C12N0001-19 [ICS,7];

C12N0001-21 [ICS,7]; C12N0005-10 [ICS,7]; C12P0021-02 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-531 [ICS,7]; G01N0033-576 [ICS,7]; A61K0038-00 [ICS,7]; A61P0031-12 [ICS,7]

FTERM 4B024/AA01; 4B024/AA14; 4B024/BA33; 4B024/CA02; 4B064/AG26; 4B064/AG33; 4B064/CA19; 4B064/CC24; 4B064/DA01; 4B064/DA15; 4B065/AB01; 4B065/BA02; 4B065/CA24; 4B065/CA45; 4B065/CA46; 4C084/AA27; 4C084/BA44; 4C084/CA01; 4C084/NA14; 4C084/ZB332; 4H045/AA10; 4H045/AA11; 4H045/AA20; 4H045/AA30; 4H045/BA10; 4H045/CA02; 4H045/DA75; 4H045/DA86; 4H045/EA31; 4H045/EA53; 4H045/FA74 <--

JP 2005176853 IPCI C12N0015-09 [ICM,7]; A61K0038-00 [ICS,7]; A61K0039-00 [ICS,7]; A61K0039-395 [ICS,7]; A61P0031-12 [ICS,7]; A61P0037-02 [ICS,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12N0001-15 [ICS,7]; C12N0001-19 [ICS,7]; C12N0001-21 [ICS,7]; C12N0005-10 [ICS,7]; C12P0021-02 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-576 [ICS,7]

FTERM 4B024/AA01; 4B024/AA14; 4B024/BA33; 4B024/CA04; 4B024/CA11; 4B024/DA06; 4B024/EA04; 4B024/GA11; 4B024/HA01; 4B024/HA03; 4B024/HA14; 4B064/AG33; 4B064/CA02; 4B064/CA10; 4B064/CA12; 4B064/CA19; 4B064/CC24; 4B064/DA03; 4B064/DA15; 4B065/AA26X; 4B065/AA96Y; 4B065/AB01; 4B065/AC14; 4B065/BA02; 4B065/CA24; 4B065/CA45; 4B065/CA46; 4C084/AA02; 4C084/AA06; 4C084/AA14; 4C084/BA01; 4C084/BA02; 4C084/BA08; 4C084/BA23; 4C084/NA14; 4C084/ZB092; 4C084/ZB332; 4C085/AA03; 4C085/AA13; 4C085/AA14; 4C085/AA16; 4C085/BB11; 4C085/CC02; 4C085/CC08; 4C085/CC21; 4C085/CC22; 4C085/CC23; 4C085/EE01; 4H045/AA10; 4H045/AA11; 4H045/AA20; 4H045/AA30; 4H045/BA10; 4H045/CA02; 4H045/DA86; 4H045/EA31; 4H045/EA53; 4H045/FA10; 4H045/FA71; 4H045/FA74 <--

AB Immunoreactive polypeptides comprising **hepatitis C virus** (**HCV**) epitopes, their use in vaccines and in assays and kits to detect antibodies to **HCV**, and methods of making them are disclosed. The E2/NS1 gene from a patient with chronic **hepatitis** was partially sequenced during 2 distinct episodes of **hepatitis** .apprx.2yr apart. The deduced amino acid sequences of the hypervariable (HV) region were strikingly different only between amino acids 391-408, with 7/8 changes occurring between amino acids 398-407. Specific 12-mer peptides were synthesized and reacted with blood plasma samples from the 2 time periods. The data indicate that while the patient developed antibodies to the HV region of the 1st variant, which were still detectable 2 yr later, no detectable humoral response had developed to the later variant which was predominant during the 2nd episode of **hepatitis**. Diphtheria toxoid carrier was activated with 6-maleimido-caproic acid N-hydroxysuccinimide ester and coupled to **HCV** peptides (384-411 and 225-260). The conjugates were formulated in vaccines.

ST **hepatitis C virus** peptide vaccine; antibody **hepatitis C virus** peptide immunoassay

IT Proteins, specific or class
RL: BIOL (Biological study)
(E2/NS1, variable domains of, of **hepatitis C virus** isolates, diagnostic reagent kits and vaccines containing)

IT Immunoassay
(antibodies to **hepatitis C virus** detection by, immunoreactive peptides of variable regions of **hepatitis C virus** isolates for)

IT Blood analysis
(antibodies to **hepatitis C virus** detection in, by ELISA, immobilized peptides of **hepatitis C virus** for)
IT Gene, microbial
RL: BIOL (Biological study)
(for immunoreactive polypeptide of variable region of **hepatitis C virus** isolates)
IT Vaccines
(**hepatitis C virus**, immunoreactive peptides of variable regions of **hepatitis C virus** isolates in)
IT Peptides, biological studies
Proteins, biological studies
RL: BIOL (Biological study)
(immunoreactive, of variable regions of **hepatitis C virus** isolates, diagnostic reagent kits and vaccines containing)
IT Protein sequences
(of immunoreactive polypeptides of variable regions of **hepatitis C virus** isolates)
IT Antibodies
RL: BIOL (Biological study)
(to **hepatitis C virus**, detection and production of, immunoreactive peptides of variable regions of **hepatitis C virus** isolates for)
IT Antigens
RL: PRP (Properties)
(variable domains of, of **hepatitis C virus** isolates, diagnostic reagent kits and vaccines containing)
IT Proteins, specific or class
RL: PRP (Properties)
(**E1**, variable domains of, of **hepatitis C virus** isolates, diagnostic reagent kits and vaccines containing)
IT Molecular structure-biological activity relationship
(antigenic, of variable region peptides of E2/NS1 protein of **hepatitis C virus** isolates and of glycoprotein gp120 of HIV-1 **virus**)
IT **Hepatitis**
(chronic, variation in amino acid sequence of E2/NS1 hypervariable domains of **hepatitis C virus** in **hepatitis** episodes in, in human)
IT Peptides, compounds
RL: BIOL (Biological study)
(conjugates, of variable region of E2/NS1 protein of **hepatitis C virus** isolates, with diphtheria toxoid, for vaccines)
IT Toxoids
RL: BIOL (Biological study)
(diphtheria, conjugates with peptides of variable region of E2/NS1 protein of **hepatitis C virus** isolates, for vaccines)
IT Sialoglycoproteins
RL: BIOL (Biological study)
(gp120env, secondary structure and amino acid sequence variation in, of HIV-1 virus)
IT **Virus, animal**
(**hepatitis C**, variable domains of antigens of, isolates, diagnostic reagent kits and vaccines containing)
IT Virus, animal
(human immunodeficiency 1, glycoprotein gp120 of, secondary structure

and amino acid sequence variation in)
IT 148222-69-9, E2/NS1 protein fragment (547-647) (**hepatitis C virus** Q1 isolate) 148222-70-2, E2/NS1 protein fragment (547-647) (**hepatitis C virus** Q1 isolate clone) 148439-13-8, E2/NS1 protein fragment (384-414) (**hepatitis C virus** Q1 isolate) 148471-80-1, E2/NS1 protein fragment (384-414) (**hepatitis C virus** Q3 isolate)
RL: PRP (Properties)
(amino acid sequence of, immunoreactive epitope in relation to)
IT 148222-71-3, E2/NS1 protein fragment (384-651) (**hepatitis C virus** J1.1 isolate) 148222-72-4, E2/NS1 protein fragment (384-651) (**hepatitis C virus** J1.2 isolate) 148222-73-5, E2/NS1 protein fragment (384-647) (**hepatitis C virus** HCT27 isolate) 148222-74-6, E2/NS1 protein fragment (384-647) (**hepatitis C virus** HCVE1 isolate)
RL: PRP (Properties)
(amino acid sequence of, immunoreactivity in relation to)
IT 9013-20-1, Streptavidin
RL: BIOL (Biological study)
(biotinylated peptides of **hepatitis C virus** immobilization in plate wells with, for antibody detection by ELISA)
IT 141718-43-6 141718-55-0 141718-56-1 141718-57-2 141718-58-3 148439-12-7
RL: BIOL (Biological study)
(blood plasma of humans with **hepatitis C virus** infection reaction with)
IT 58-85-5D, Biotin, conjugates with peptides of **hepatitis C virus**, immobilized
RL: BIOL (Biological study)
(for antibody detection by ELISA)
IT 148439-14-9, E2/NS1 protein fragment (396-407) (**hepatitis C virus** Q3 isolate synthetic) 148439-15-0, E2/NS1 protein fragment (396-407) (**hepatitis C virus** Q1 isolate synthetic)
RL: BIOL (Biological study)
(immunoreactive epitope, amino acid sequence of)
IT 55750-63-5DP, diphtheria toxoid reaction products
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and coupling of, with peptides of E2/NS1 protein of variable region of **hepatitis C virus** isolates, for vaccines)

L50 ANSWER 31 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:510547 HCAPLUS
DN 119:110547
ED Entered STN: 18 Sep 1993
TI **Hepatitis C virus** (**HCV**) genomic sequences for diagnostics and therapeutics
IN Cha, Taian; Beall, Eileen; Irvine, Bruce; Kolberg, Janice; Urdea, Michael S.
PA Chiron Corp., USA
SO PCT Int. Appl., 186 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-51
ICS C12Q0001-68; C12N0015-40; C12Q0001-70; A61K0039-29; C07K0013-00; G01N0033-576

CC 3-1 (Biochemical Genetics)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9219743	A2	19921112	WO 1992-US4036	19920508	<--
	WO 9219743	A3	19931125			
	W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO, PL, RO, RU, SD					
	RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GN, GR, IT, LU, MC, ML, MR, NL, SE, SN, TD, TG					
	AU 9221558	A1	19921221	AU 1992-21558	19920508	<--
	AU 668355	B2	19960502			
	EP 585398	A1	19940309	EP 1992-913881	19920508	<--
	EP 585398	B1	20031015			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE					
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	HU 69609	A2	19950928	HU 1993-3166	19920508	<--
	PL 169880	B1	19960930	PL 1992-301282	19920508	<--
	PL 170151	B1	19961031	PL 1992-312096	19920508	<--
	RU 2155228	C2	20000827	RU 1993-58449	19920508	<--
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	CZ 288722	B6	20010815	CZ 1996-1210	19920508	<--
	RO 117267	B1	20011228	RO 1993-1493	19920508	<--
	JP 2003009891	A2	20030114	JP 2002-134997	19920508	<--
	JP 2003009892	A2	20030114	JP 2002-134999	19920508	<--
	JP 2003009893	A2	20030114	JP 2002-135000	19920508	<--
	JP 2003024090	A2	20030128	JP 2002-134998	19920508	<--
	AT 252154	E	20031115	AT 1992-913881	19920508	<--
	EP 1394256	A2	20040303	EP 2003-13389	19920508	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC					
	ES 2207633	T3	20040601	ES 1992-913881	19920508	<--
	SK 284205	B6	20041005	SK 1993-1232	19920508	<--
	NO 9304019	A	19931105	NO 1993-4019	19931105	<--
	NO 309532	B1	20010212			
	BG 64627	B1	20050930	BG 1997-101876	19931105	<--
	FI 115725	B1	20050630	FI 1993-4937	19931108	<--
	US 6190864	B1	20010220	US 1994-221653	19940401	<--
	US 6071693	A	20000606	US 1995-441971	19950516	<--
	US 6214583	B1	20010410	US 1995-442144	19950516	<--
	US 6297370	B1	20011002	US 1995-441970	19950516	<--
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PRAI	US 1991-697326	A	19910508	<--		
	CZ 1993-2377	A	19920508	<--		
	EP 1992-913881	A3	19920508	<--		
	JP 1992-512055	A3	19920508	<--		
	US 1992-881528	B1	19920508	<--		
	WO 1992-US4036	A	19920508	<--		
	US 1994-221653	A3	19940401	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9219743	ICM	C12N0015-51
	ICS	C12Q0001-68; C12N0015-40; C12Q0001-70; A61K0039-29; C07K0013-00; G01N0033-576
	IPCI	C12N0015-51 [ICM,5]; C12Q0001-68 [ICS,5]; C12N0015-40 [ICS,5]; C12Q0001-70 [ICS,5]; A61K0039-29 [ICS,5]; C07K0013-00 [ICS,5]; G01N0033-576 [ICS,5] <--
AU 9221558	IPCI	G01N0033-576 [ICM,5]; C12N0015-51 [ICS,5]; C12Q0001-68 [ICS,5]; C12N0015-40 [ICS,5]; C12Q0001-70 [ICS,5]; A61K0039-29 [ICS,5]; C07K0013-00 [ICS,5] <--

EP 585398	IPCI	C12N0015-51 [ICM,5]; C12Q0001-68 [ICS,5]; C12N0015-40 [ICS,5]; C12Q0001-70 [ICS,5]; A61K0039-29 [ICS,5]; C07K0013-00 [ICS,5]; G01N0033-576 [ICS,5] <--
JP 06508026	IPCI	C12N0015-51 [ICM,5]; A61K0039-29 [ICS,5]; A61K0039-395 [ICS,5]; C07K0013-00 [ICS,5]; C12N0015-40 [ICS,5]; C12Q0001-70 [ICS,5]; G01N0033-53 [ICS,5]; G01N0033-576 [ICS,5] <--
HU 69609	IPCI	C12N0015-51 [ICM,6]; C12Q0001-68 [ICS,6]; A61K0039-29 [ICS,6]; C07K0014-18 [ICS,6]; G01N0033-576 [ICS,6] <--
PL 169880	IPCI	C12N0015-51 [ICM,6] <--
PL 170151	IPCI	C12Q0001-68 [ICM,6]; G01N0033-576 [ICS,6]; C12N0015-51 [ICS,6] <--
RU 2155228	IPCI	C12N0015-51 [ICM,7]; C12N0015-40 [ICS,7]; C12Q0001-68 [ICS,7] <--
CZ 288720	IPCI	C12N0015-51 [ICM,7]; C12Q0001-68 [ICS,7]; C12N0015-40 [ICS,7]; C12Q0001-70 [ICS,7]; A61K0039-29 [ICS,7]; C07K0014-10 [ICS,7]; G01N0033-576 [ICS,7] <--
CZ 288722	IPCI	C12N0015-51; C12Q0001-68; C12N0015-40; C12Q0001-70; A61K0039-29; C07K0014-10; G01N0033-576 <--
RO 117267	IPCI	C12N0015-51 [ICM,7]; C12Q0001-68 [ICS,7]; C12N0015-40 [ICS,7]; A61K0039-29 [ICS,7] <--
JP 2003009891	IPCI	C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-566 [ICS,7] <--
JP 2003009892	IPCI	C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-566 [ICS,7] <--
JP 2003009893	IPCI	C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-566 [ICS,7] <--
JP 2003024090	IPCI	C12N0015-09 [ICM,7]; C07K0014-18 [ICS,7]; C07K0016-10 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-566 [ICS,7] <--
AT 252154	IPCI	C12N0015-51 [ICM,7]; C12Q0001-68 [ICS,7]; C12N0015-40 [ICS,7]; C12Q0001-70 [ICS,7]; G01N0033-576 [ICS,7] <--
EP 1394256	IPCI	C12N0015-51 [ICM,7]
	ECLA	A61K038/16A; C07K014/18F4; C12Q001/70B6A <--
ES 2207633	IPCI	C12N0015-51 [ICM,7]; C12Q0001-68 [ICS,7]; C12N0015-40 [ICS,7]; C12Q0001-70 [ICS,7]; G01N0033-576 [ICS,7] <--
SK 284205	IPCI	A61K0039-29 [ICM,7]; C12N0015-51 [ICS,7]; C12Q0001-68 [ICS,7]; C12N0015-40 [ICS,7]; C12Q0001-70 [ICS,7]; C07K0014-00 [ICS,7]; G01N0033-576 [ICS,7] <--
NO 9304019	IPCI	C12N0015-51 [ICM,5] <--
BG 64627	IPCI	C12N0015-51 [ICM,7]; C12Q0001-68 [ICS,7]; C12N0015-40 [ICS,7]; C12Q0001-70 [ICS,7]; A61K0039-29 [ICS,7]; C07K0014-01 [ICS,7]; G01N0033-576 [ICS,7] <--
FI 115725	IPCI	C12N0015-51 [ICM,7]; C12Q0001-68 [ICS,7]
	ECLA	A61K038/09+M; C07K014/18F4; C12Q001/70B6A <--
US 6190864	IPCI	C12Q0001-68 [ICM,7]; C07H0021-02 [ICS,7]; C07H0021-04 [ICS,7]
	NCL	435/006.000; 536/023.100; 536/024.300
	ECLA	A61K038/09+M; C07K014/18F4; C12Q001/70B6A <--
US 6071693	IPCI	C12Q0001-68 [ICM,7]; C07H0021-02 [ICS,7]; C07H0021-04 [ICS,7]; C12N0015-00 [ICS,7]
	NCL	435/006.000; 536/023.100; 536/024.300
	ECLA	C12Q001/70B6A <--
US 6214583	IPCI	C12Q0001-70 [ICM,7]; A61K0039-29 [ICS,7]
	NCL	435/069.300; 424/184.100; 424/202.100; 424/228.100; 435/005.000; 435/007.100; 530/300.000; 530/350.000; 536/023.100

	ECLA	A61K038/09+M; C07K014/18F4; C12Q001/70B6A <--
US 6297370	IPCI	C07H0021-04 [ICM,7]; C07H0021-02 [ICS,7]; C12Q0001-68 [ICS,7]; C12N0015-00 [ICS,7]
	NCL	536/024.300; 435/006.000; 536/023.100
	ECLA	A61K038/09+M; C07K014/18F4; C12Q001/70B6A <--
JP 2004290204	IPCI	C12N0015-09 [ICM,7]; C12Q0001-68 [ICS,7]; C12Q0001-70 [ICS,7]
	FTERM	4B024/AA01; 4B024/AA11; 4B024/BA31; 4B024/CA04; 4B024/CA07; 4B024/CA09; 4B024/CA10; 4B024/DA06; 4B024/EA04; 4B024/GA11; 4B024/HA01; 4B063/QA01; 4B063/QQ10; 4B063/QQ42; 4B063/QR32; 4B063/QR55; 4B063/QR59; 4B063/QR62; 4B063/QR82; 4B063/QS03; 4B063/QS25; 4B063/QS34 <--

AB The cDNA probe sequences for the NS5, **envelope 1**, 5'UT, and the core regions of 5 genotypes of **HCV** are given. These cDNA probes can be used for detection of **HCV** by e.g. sandwich hybridization. Also they can be used for preparing antigenic peptides for induction of antibodies to **HCV** for the title purposes.

ST **hepatitis C virus** cDNA probe hybridization; antibody antigen peptide **HCV** diagnosis therapeutics

IT Peptides, biological studies
RL: BIOL (Biological study)
(antigenic, for diagnosis of **hepatitis C virus**)

IT Therapeutics
(cDNA probes of NS5 and **envelope 1** and 5'UT and core regions of **hepatitis C virus** in relation to)

IT Antibodies
RL: BIOL (Biological study)
(to antigenic peptide derived from **hepatitis C virus** genome for diagnosis of **HCV**)

IT Antigens
RL: BIOL (Biological study)
(**E1**, of **hepatitis C virus**, cDNA from gene for, for diagnosis)

IT Proteins, specific or class
RL: BIOL (Biological study)
(NS5 (nonstructural, 5), of **hepatitis C virus**, cDNA from gene for, for diagnosis)

IT Deoxyribonucleic acid sequences
(complementary, of NS5 and **envelope 1** and 5'UT and core regions of **hepatitis C virus**)

IT Proteins, specific or class
RL: BIOL (Biological study)
(core, of **hepatitis C virus**, cDNA from gene for, for diagnosis)

IT **Virus, animal**
(**hepatitis C**, cDNA probes for diagnosis of)

IT Nucleic acid hybridization
(sandwich, cDNA probes for diagnosis of **hepatitis C virus** by)

IT 142788-83-8, GenBank D10641 146317-26-2, Deoxyribonucleic acid (**hepatitis C virus** clone ns5hcv1 protein NS 5 fragment-specifying) 146317-27-3, Deoxyribonucleic acid (**hepatitis C virus** clone ns5i21 protein NS 5 fragment-specifying) 146317-28-4, Deoxyribonucleic acid (**hepatitis C virus** clone ns5pt1 protein NS 5 fragment-specifying) 146317-29-5, Deoxyribonucleic acid (

hepatitis C virus clone ns5gm2 protein NS 5
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hepatitis C virus clone nac5 polyprotein gene
5'-flanking region fragment) 146317-62-6, Deoxyribonucleic acid (
hepatitis C virus clone i10 polyprotein gene
5'-flanking region fragment) 146317-63-7, Deoxyribonucleic acid (
hepatitis C virus clone arg6 polyprotein gene
5'-flanking region fragment) 146317-64-8, Deoxyribonucleic acid (
hepatitis C virus clone s21 polyprotein gene
5'-flanking region fragment) 146317-65-9, Deoxyribonucleic acid (
hepatitis C virus clone gj61329 polyprotein
gene 5'-flanking region fragment) 146317-66-0, Deoxyribonucleic acid (
hepatitis C virus clone sa3 polyprotein gene
5'-flanking region fragment) 146317-67-1, Deoxyribonucleic acid (
hepatitis C virus clone hcv1 core antigen
fragment-specifying) 146317-68-2, Deoxyribonucleic acid (
hepatitis C virus clone us5 core antigen
fragment-specifying) 146317-69-3, Deoxyribonucleic acid (
hepatitis C virus clone aus1 core antigen
fragment-specifying) 146317-70-6, Deoxyribonucleic acid (
hepatitis C virus clone sp2 core antigen
fragment-specifying) 146317-71-7, Deoxyribonucleic acid (
hepatitis C virus clone gm2 core antigen
fragment-specifying) 146317-72-8, Deoxyribonucleic acid (
hepatitis C virus clone i21 core antigen
fragment-specifying) 146317-73-9, Deoxyribonucleic acid (
hepatitis C virus clone us4 core antigen
fragment-specifying) 146317-74-0, Deoxyribonucleic acid (
hepatitis C virus clone jh1 core antigen
fragment-specifying) 146317-75-1, Deoxyribonucleic acid (
hepatitis C virus clone nac5 core antigen
fragment-specifying) 146317-76-2, Deoxyribonucleic acid (
hepatitis C virus clone arg2 core antigen
fragment-specifying) 146317-77-3, Deoxyribonucleic acid (
hepatitis C virus clone sp1 core antigen
fragment-specifying) 146317-78-4, Deoxyribonucleic acid (
hepatitis C virus clone gh1 core antigen
fragment-specifying) 146317-79-5, Deoxyribonucleic acid (
hepatitis C virus clone i15 core antigen
fragment-specifying) 146317-80-8, Deoxyribonucleic acid (
hepatitis C virus clone i10 core antigen
fragment-specifying) 146317-81-9, Deoxyribonucleic acid (
hepatitis C virus clone arg6 core antigen
fragment-specifying)
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of, for diagnosis of **HCV**)

L50 ANSWER 32 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:467502 HCAPLUS
DN 119:67502
ED Entered STN: 21 Aug 1993
TI Analysis of the putative **E1** envelope and NS4a epitope regions of **HCV** type 3
AU Stuyver, Lieven; Van Arnhem, Wouter; Wyseru, Ann; DeLeys, Robert; **Maertens, Geert**
CS **Innogenetics N.V., Ghent, B-9052, Belg.**
SO Biochemical and Biophysical Research Communications (**1993**), 192(2), 635-41

CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 3, 15
AB Using a Line Probe Assay, type 3 **HCV** genotype-infected sera were selected from Brazilian blood donors. The partial nucleotide sequences of the core/**E1** and NS4a epitope-containing regions and the NS5b typing region were determined The **E1** region had a nucleic acid homol. of only 61 to 65% with the type 1 prototype genomes, and 56 to 58% homol. with the type 2 prototype **HCV** genomes. Similar homologies were also found for the NS4a epitope region and for NS5. Furthermore, the deduced amino acid sequence of type 3 NS4a was used to generate synthetic peptides which were strongly reactive with human **HCV**-infected sera which were previously determined as anti-NS4 neg., indicating that a type-specific antibody response to the NS4a protein may exist.
ST **hepatitis C virus** envelope NS4a protein; sequence envelope NS4a protein gene **hepatitis**
IT Proteins, specific or class
RL: BIOL (Biological study)
(NS5b, genes for, of **hepatitis C virus** type 3, partial nucleotide sequence of)
IT Protein sequences
(of **E1** envelope and NS4a epitope regions, of **hepatitis C virus** type 3)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(**E1**, gene for, of **hepatitis C** type 3 **virus**, identification and structural anal. of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(NS-4a (nonstructural, NS-4a), gene for, of **hepatitis C** type 3 **virus**, identification and structural anal. of)
IT **Virus, animal**
(**hepatitis C, E1** envelope and NS4a epitope regions of, structural anal. of)
IT Ribonucleic acid sequences
(**viral**, of **E1** envelope and NS4a and NS4b protein genes, of **hepatitis C virus** type 3)
IT 148790-35-6 148790-36-7 148790-37-8 148790-38-9 148790-39-0
148790-40-3 148790-41-4 148790-42-5 148790-43-6 148790-44-7
148790-45-8 148790-46-9 148790-47-0
RL: PRP (Properties)
(amino acid sequence of)
IT 148579-28-6, GenBank D14596 148579-29-7, GenBank D14599 148579-30-0, GenBank D14603 148579-31-1, GenBank D14600 148579-32-2, GenBank D14602 148579-33-3, GenBank D14597 148579-34-4, GenBank D14598 148579-35-5, GenBank D14601
RL: PRP (Properties)
(identification and nucleotide sequence of)

L50 ANSWER 33 OF 33 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:227540 HCAPLUS
DN 118:227540
ED Entered STN: 12 Jun 1993
TI Nucleotide and peptide sequences of an isolate of the **hepatitis C virus**, diagnostic and therapeutic applications thereof
IN Brechot, Christian; Kremsdorf, Dina; Porchon, Colette
PA Institut Pasteur, Fr.

SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N0015-51
ICS C12N0015-63; C12N0005-16; C12P0021-08; C12Q0001-68; C07K0015-28; G01N0033-569; G01N0033-577
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): **1**, 9, 15

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9221759	A1	19921210	WO 1992-FR501	19920604	<--
	W: CA, JP, US					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE					
	FR 2677372	A1	19921211	FR 1991-6882	19910606	<--
	FR 2677372	B1	19941110			
	CA 2088666	AA	19921207	CA 1992-2088666	19920604	<--
	EP 542970	A1	19930526	EP 1992-911801	19920604	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE					
	JP 06500698	T2	19940127	JP 1992-510772	19920604	<--
	US 5879904	A	19990309	US 1993-965285	19930318	<--
	US 6210962	B1	20010403	US 1998-201912	19981130	<--
PRAI	FR 1991-6882	A	19910606	<--		
	WO 1992-FR501	W	19920604	<--		
	US 1993-965285	A1	19930318	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9221759	ICM	C12N0015-51
	ICS	C12N0015-63; C12N0005-16; C12P0021-08; C12Q0001-68; C07K0015-28; G01N0033-569; G01N0033-577
	IPCI	C12N0015-51 [ICM,5]; C12N0015-63 [ICS,5]; C12N0005-16 [ICS,5]; C12P0021-08 [ICS,5]; C12Q0001-68 [ICS,5]; C07K0015-28 [ICS,5]; G01N0033-569 [ICS,5]; G01N0033-577 [ICS,5] <--
FR 2677372	IPCI	C12N0015-51 [ICM,5]; C12N0015-63 [ICS,5]; C12N0005-16 [ICS,5]; C12P0021-08 [ICS,5]; C12Q0001-68 [ICS,5]; C07K0015-28 [ICS,5]; G01N0033-569 [ICS,5]; G01N0033-577 [ICS,5]; A61K0039-29 [ICS,5]; A61K0039-42 [ICS,5]
	ECLA	C07K014/18F4 <--
EP 542970	IPCI	C12N0015-51 [ICM,5]; C12N0015-63 [ICS,5]; C12N0005-16 [ICS,5]; C12P0021-08 [ICS,5]; C12Q0001-68 [ICS,5]; C07K0015-28 [ICS,5]; G01N0033-569 [ICS,5]; G01N0033-577 [ICS,5] <--
JP 06500698	IPCI	C12N0015-51 [ICM,5]; C07K0013-00 [ICS,5]; C12N0005-20 [ICS,5]; C12P0021-08 [ICS,5]; G01N0033-53 [ICS,5]; G01N0033-576 [ICS,5]; G01N0033-577 [ICS,5] <--
US 5879904	IPCI	C07H0021-04 [ICM,6]; A61K0031-00 [ICS,6]
	NCL	435/069.100; 435/069.300; 435/071.100; 435/252.300; 435/320.100; 536/023.100; 536/023.720
	ECLA	C07K014/18F4 <--
US 6210962	IPCI	C07H0021-04
	NCL	435/320.100; 435/069.300; 435/235.100; 536/023.720
	ECLA	C07K014/18F4 <--

AB CDNA sequences from **hepatitis C virus** isolate **E1** in the 5' noncoding region, the **E1** region, the E2-NS1 region, and the genes NS3-NS4 region are presented. The sequences may be used to detect **hepatitis C virus**; peptides encoded by these regions may be used to diagnose

hepatitis C virus infection or may be used as a vaccine. Comparison with existing Japanese and American isolates indicates the sequence of this isolate is strongly conserved in the 5' noncoding region, and exhibits important variability in the region coding for the structural regions of **E1** and E2-NS1.

ST **hepatitis C virus E1** sequence; vaccine diagnosis **hepatitis C virus**

IT Plasmid and Episome
(I-1105, **hepatitis C virus** isolate **E1** cDNA on)

IT Plasmid and Episome
(I-1106, **hepatitis C virus** isolate **E1** cDNA on)

IT Plasmid and Episome
(I-1107, **hepatitis C virus** isolate **E1** cDNA on)

IT Protein sequences
(for proteins **E1** and E2 and NS1 and NS3 and NS4 of **hepatitis C virus E1** isolate)

IT Peptides, biological studies
RL: BIOL (Biological study)
(immunogenic, of **hepatitis C virus**)

IT Hybridoma
(monoclonal antibodies to **hepatitis C virus** -producing)

IT Molecular cloning
(of cDNA for **hepatitis C virus** isolate **E1**)

IT Vaccines
(to **hepatitis C virus**, cloning of cDNA for isolate **E1** of **hepatitis C virus** in relation to)

IT Proteins, specific or class
RL: BIOL (Biological study)
(**E1**, of **hepatitis C virus** isolate **E1**, sequence of)

IT Proteins, specific or class
RL: BIOL (Biological study)
(E2, of **hepatitis C virus** isolate **E1**, sequence of)

IT Proteins, specific or class
RL: BIOL (Biological study)
(NS1, of **hepatitis C virus** isolate **E1**, sequence of)

IT Proteins, specific or class
RL: BIOL (Biological study)
(NS3, of **hepatitis C virus** isolate **E1**, sequence of)

IT Proteins, specific or class
RL: BIOL (Biological study)
(NS4 (nonstructural, 4), of **hepatitis C virus** isolate **E1**, sequence of)

IT **Virus, animal**
(**hepatitis C**, cDNA for isolate **E1** of, sequence of, detection of and vaccination for)

IT Antibodies
RL: BIOL (Biological study)
(monoclonal, to **hepatitis C virus**)

IT Nucleotides, polymers
RL: BIOL (Biological study)

(oligo-, for detection of **hepatitis C virus**
)
IT Ribonucleic acid sequences
(**viral**, of **hepatitis C virus**
E1 isolate)
IT 147605-46-7 147605-47-8
RL: PRP (Properties)
(amino acid sequence of)
IT 146889-26-1
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence of, complete)
IT 145787-87-7 145787-88-8 145787-89-9 145787-90-2 145787-91-3 145787-92-4
RL: PRP (Properties)
(amino acid sequence of, detection of virus infection or vaccination with)
IT 147605-43-4 147605-44-5 147605-45-6 147605-48-9
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of)
IT 147179-12-2 147179-13-3 147179-14-4 147179-15-5 147179-16-6 147179-17-7 147179-18-8 147179-19-9
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of, for virus detection)

=> => fil medline
FILE 'MEDLINE' ENTERED AT 09:54:51 ON 06 FEB 2006

FILE LAST UPDATED: 4 FEB 2006 (20060204/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 will soon be available. For details on the 2005 reload, enter HELP RLOAD at an arrow promt (=>).
See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate

=> d all

L69 ANSWER 1 OF 1 MEDLINE on STN
AN **96133437** MEDLINE
DN PubMed ID: 8550052
TI Lymphoproliferative responses to **hepatitis C** virus core, **E1**, E2, and NS3 in patients with chronic **hepatitis C** infection treated with interferon alfa.
AU Leroux-Roels G; Esquivel C A; DeLeys R; Stuyver L; Elewaut A; Philippe J; Desombere I; Paradijs J; **Maertens G**

CS Department of Clinical Chemistry, University of Ghent, Belgium.
SO Hepatology (Baltimore, Md.), **(1996 Jan)** 23 (1) 8-16.
Journal code: 8302946. ISSN: 0270-9139.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 199602
ED Entered STN: 19960306
Last Updated on STN: 20021008
Entered Medline: 19960220
AB The quality of the **hepatitis C** virus (**HCV**
)-specific T-cell response may greatly determine the course of an **HCV** infection. An adequate T-cell response may contribute to a successful clearance of the virus and a rapid recovery from the disease. An inadequate response may lead to viral persistence and may eventually contribute to the pathogenesis of hepatocellular damage in chronic disease. The effect of interferon alfa (IFN-alpha), presently the most popular therapeutic agent for chronic **HCV** infections, on **HCV**-specific T-cell responses is completely unknown. To demonstrate the presence of **HCV**-specific T lymphocytes during chronic **HCV** infections, to know their antigenic specificities, and to examine possible effects of IFN-alpha treatment on their presence and antigen recognition patterns, we have stimulated peripheral blood mononuclear cells (PBMC) from 35 chronic **HCV** patients with nine pools of synthetic peptides representing the **HCV** Core, **E1**, and E2 proteins as well as with a recombinant NS3 protein. The proliferative responses of PBMC from 16 healthy control subjects toward these antigens were measured for comparison. Lymphoproliferative responses of patients with chronic **HCV** infections were assayed either before (in 10 patients), during (in 13 patients), or after (in 21 patients) treatment with IFN-alpha. The analysis showed that PBMC from most **HCV** patients consistently recognized the COOH-terminal part of the core protein. **E1**, E2, and NS3 were recognized less frequently. This recognition pattern was not related to the therapy with IFN-alpha nor to the clinical response of the patient toward this therapy. The response to the Core protein could be fine-mapped to the COOH-terminal region encompassing amino acids (aa) 73 to 92, 121 to 140, 145 to 164, and 157 to 176.
CT Check Tags: Female; Male
Adult
Aged
Amino Acid Sequence
Chronic Disease
Epitopes: IM, immunology
Hepacivirus: IM, immunology
Hepatitis C: IM, immunology
***Hepatitis C: TH, therapy**
***Hepatitis C Antigens: IM, immunology**
Humans
*Interferon-alpha: TU, therapeutic use
*Lymphocyte Activation
Middle Aged
Molecular Sequence Data
Research Support, Non-U.S. Gov't
Viral Core Proteins: CH, chemistry
Viral Core Proteins: IM, immunology
Viral Proteins: IM, immunology

CN 0 (Epitopes); 0 (**Hepatitis C** Antigens); 0 (Interferon-alpha); 0 (Viral Core Proteins); 0 (Viral Proteins); 0 (nucleocapsid protein, **hepatitis C** virus)

=> => fil wpix
FILE 'WPIX' ENTERED AT 10:40:39 ON 06 FEB 2006
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MOST RECENT DERWENT UPDATE: 200608 <200608/DW>
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http://www.stn-international.de/stndatabases/details/ipc_reform.html and
http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf <<<
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=> d all abeq tech abex tot

L119 ANSWER 1 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **2006-012994** [02] WPIX
CR 1996-129331 [13]
DNC **C2006-003825**
TI Novel **hepatitis C E1** and E2 truncated polypeptides and methods of obtaining them.
DC B04 D16
IN HOUGHTON, M; SELBY, M
PA (CHIR) CHIRON CORP
CYC 1
PI IN 9500856 I2 20051021 (200602)* EN C12N015-51
ADT IN 9500856 I2 **IN 1995-KO856 19950725**
PRAI **US 1995-282959 19950725; US 1994-282959 19940729**
IC ICM C12N015-51
ICS **C07K014-18**
AB IN 9500856 I UPAB: 20060106
NOVELTY - Novel **Hepatitis C** E1 and E2 truncated polypeptides and complexes comprising these polypeptides, are disclosed.

The polypeptides are C-terminally truncated to remove all or a portion of their membrane spanning domains. Hence, the polypeptides are capable of secretion when expressed recombinantly. Image 0/0.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B04-N03; D05-H17B

L119 ANSWER 2 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **2003-830974** [77] WPIX
CR 2000-451625 [39]; 2002-590722 [63]; 2004-178436 [17]
DNC **C2003-234111**
TI New antibodies directed to conformational and linear epitopes of **hepatitis C** viral envelop proteins derived from multiple genotypes of the virus useful for diagnosis and treatment of the viral infection.
DC B04 D16
IN FOUNG, S K H; KECK, Z
PA (STRD) UNIV LELAND STANFORD JUNIOR
CYC 103
PI US 2003180284 A1 20030925 (200377)* 100 A61K039-42 <--
WO 2004005316 A2 20040115 (200415) EN C07K000-00
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
AU 2003247841 A1 20040123 (200459) A61K039-42 <--
EP 1572721 A2 20050914 (200560) EN C07K001-00
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR
ADT US 2003180284 A1 **CIP of US 1998-187057 19981105**, CIP of US 1999-430489 19991029, CIP of US 2000-728720 20001201, US 2002-188608 20020702; WO 2004005316 A2 WO 2003-US20580 20030627; AU 2003247841 A1 AU 2003-247841 20030627; EP 1572721 A2 EP 2003-763059 20030627, WO 2003-US20580 20030627
FDT AU 2003247841 A1 Based on WO 2004005316; EP 1572721 A2 Based on WO 2004005316
PRAI US 2002-188608 20020702; **US 1998-187057 19981105**; US 1999-430489 19991029; US 2000-728720 20001201
IC ICM **A61K039-42**; C07K000-00; C07K001-00
ICS A01N061-00; A61K031-00; A61K039-395; C07K016-00; C07K016-08; C12P021-08
AB US2003180284 A UPAB: 20050920
NOVELTY - Antibodies (A1) directed to a conformational and linear epitope are new.
DETAILED DESCRIPTION - A1 directed to:
(a) a conformational within amino acids 206 - 313 of the **E1** protein of the **HCV** virus 1b;
(b) a linear epitope within amino acids 194 - 204 of the **HCV E1** protein derived from multiple **HCV** genotypes;
(c) to the epitope recognized by H-114; and to the epitope; or
(d) recognized by H-111 are new.
INDEPENDENT CLAIMS are included for the following:
(1) a cell line expressing the antibody (A1);
(2) identifying (M1) receptors for **HCV E1** protein or peptide involving either contacting the **HCV E1**

protein or peptide with (A1); contacting a cell expressing a putative receptor for **E1** with the **HCV E1** protein or peptide and (A1); detecting binding of the protein or peptide to the cell, where a decrease in binding to the surface of the cell compared to binding in the absence of (A1) indicating identification of the receptor as an **HCV E1** receptor;

(3) identifying (M2) receptors for **HCV E1** protein or peptide involving attaching the antibody (A1) to a solid support; contacting the antibody (A1) with the **HCV E1** protein or peptide to form a protein or peptide:antibody complex; contacting the complex with a library of proteins or peptides; removing the unbound library proteins or peptides from the complex; identifying the library proteins or peptides that are bound to the complex, where the bound library proteins or peptides are putative **HCV E1** receptors;

(4) a pharmaceutical composition (C1) comprising the antibody and a excipient;

(5) a pharmaceutical composition (C2) comprising a combination of at least two monoclonal antibodies (A2). (A2) are directed to **E1** and E2 proteins of **HCV**;

(6) treating (M3) a patient infected with or exposed to **HCV** involving administering (A1);

(7) a virus displaying receptors for (A1) directed to (a) or (b);

(8) a peptide (P1) comprising a conformational epitope of **E1** protein of **HCV** comprising amino acids 206 - 313 of the **E1** protein of the **HCV** virus 1b;

(9) a peptide (P2) comprising an amino acid sequence of **HCV** , **E1** where the amino acids are analogous to amino acids 206 - 313 of the **E1** protein of **HCV** 1b;

(10) a non-**HCV** protein or peptide (P3) comprising amino acids analogous to amino acids 206 - 313 (preferably in native conformation) of **HCV** 1b **E1** protein;

(11) a peptide (P4) which is at least 60 - 90% identical to (P2);

(12) an agent (A3) having three-dimensional structural similarity to conformational epitope of the **HCV E1** 1b genotype comprising amino acids 206 - 313 to compete for binding of the epitope to an antibody in the presence of the agent versus in the agent's absence;

(13) a vaccine (v1) comprising a peptide fragment of **HCV E1** that contains a conformational epitope within amino acids 206 - 313 of the **E1** protein of the **HCV** virus 1b;

(14) a vaccine (v2) comprising a peptide fragment of **HCV E1** that contains an epitope recognized (A1) directed to (a) or (c);

(15) a vaccine (v3) comprising a peptide fragment of **HCV E1** that contains an epitope recognized by a human monoclonal antibody selected from H-114 and H-111;

(16) a vaccine (v4) comprising (P1);

(17) a vaccine (v5) comprising (A3);

(18) a vaccine (v6) comprising a combination of at least one peptide fragment of **HCV E1** that contains an epitope recognized by a human monoclonal antibody and at least one peptide fragment of **HCV** E2 that contains an epitope recognized by a human monoclonal antibody;

(19) classification (M4) of patients infected with **HCV** involving measuring inhibition by a patient's serum of binding of (A1) directed to (a) or (b) to its epitope; and identifying patient as candidate for administration of a treatment;

(20) detection (M5) of **HCV** infection involving contacting a body fluid (preferably blood) from an individual with (A1) directed to (a) or (b); and detecting the binding of (A1) to the peptide; and

(21) identifying (M6) of the genotype of **HCV** involving contacting a body fluid (preferably blood) from an individual with at least two (A1) directed to (a); detecting binding of (A1) to the peptides; and analyzing the profile of antibody binding to determine the genotype of **HCV**.

ACTIVITY - Virucide; Hepatotropic.

MECHANISM OF ACTION - Vaccine; HCV replication inhibitor; HCV E2 and target cell receptor interaction inhibitor. The efficacy of human monoclonal antibody (CBH-5) to inhibit binding of HCV E2 to a receptor-CD81 expressed on human T cell was evaluated by neutralization of binding (NOB) assay as described in Rosa et al., supra; Ishii et al., supra. CBH-5 showed 50% neutralization of binding at NOB titer of 2 mu g/ml.

USE - For identifying, classifying and treating patients infected with or exposed to HCV; for identifying receptors for HCV E1 protein or peptide; for identifying genotype of HCV. Peptides are used in vaccines (all claimed). For passive immunotherapy; for determining proper treatment regimen, and as templates for designing peptides and other structural mimics of the viral epitopes.

ADVANTAGE - The monoclonal antibodies are directed to conformational and linear epitopes, hence effectively interfere with the interaction of native HCV and its cellular target receptors; reduce or avoid the risk of adverse reactions resulting from administration of unnecessary therapeutics. The human monoclonal antibodies recognize multiple genotypes of HCV and the sequences with functional and structural significance within HCV E1 and E2 proteins; induce potent immune response; and provide neutralization of a broader spectrum of genotypes.

Dwg.0/46

FS CPI

FA AB

MC CPI: B04-C01G; B04-F0100E; B04-F1100E; B04-G0400E; B04-G2100E; B04-N03A0E; B11-C07A; B12-K04A4; B12-K04E; B14-A02; B14-N12; D05-H09; D05-H11A; D05-H17A1; D05-H18

TECH UPTX: 20031128

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Cell line: The cell line is an eukaryotic cell line (including mammalian (e.g. human) cell line, preferably B cell line), or hybridoma. The cell line has been transformed with Epstein-Barr virus (EBV), or infected with a virus or phage. Preferred Components: In (v6), the peptide fragments of **HCV E1** and E2 are of single or multiple **HCV** genotypes and the epitopes recognized by the antibody are linear and/or conformational epitopes on peptide fragments of **HCV E1** and E2. Preferred Antibody: (A1) is humanized or mammalian (preferably monoclonal) antibody. (A2) are directed to linear and/or conformational epitopes of **E1** and E2 proteins of a single or multiple **HCV** genotype.

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: (C2) comprises H-111 and CBH-5, CBH-7, CBH-4G, CBH-8C, CBH-17 or CBH-2. Preferred Method: (M3) involves administering more than one different antibody or at least two (A2). (M4) additionally involves administration of (A1) directed to (a) or (b). Preferred Components: (A3) is a peptide, a small molecule, a chemical compound, an organic molecule, an inorganic molecule, or a mimotope. (v6) comprises H-111 and CBH-5, CBH-7, CBH-4G, CBH-8C, CBH-17, or CBH-2.

ABEX UPTX: 20031128

ADMINISTRATION - No dosage given. Administration is by oral, rectal, intravenous, intraperitoneal, intragastric, subcutaneous, intramuscular, intrathecal, vaginal, intranasal, transdermal or intradermal route.

EXAMPLE - **Hepatitis C** virus E2 protein specific human

monoclonal antibodies were produced using B cells. Peripheral B-cells were EBV-activated in microtiter plates. The cells infected with recombinant vaccinia virus expressing **HCV** E2 proteins were fixed and incubated in culture medium at 37 degrees C for 30 minutes. The EBV-activated cultures of B cells were electrofused to H73C11 (mouse-human heteromyeloma) (as described in Found et al., 1990 J. Immunol. Methods 134:35-42). Additional 6 fusions were performed on two of the original EBV-activated cultures showing reactivity to **HCV**-E2. The cultured hybridoma of B cells and H73C11 produced the human monoclonal antibodies CBH-5.

L119 ANSWER 3 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN 2001-316323 [33] WPIX
CR 1996-129401 [13]; 2000-147201 [13]; 2002-599657 [64]
DNC C2001-097443
TI Novel **Hepatitis C** virus protein useful in the manufacture of vaccine composition, for raising antibodies and for detecting **HCV** proteins, comprise at least two cysteine amino acids that have reversible redox status.
DC B04 D16 S03
IN BOSMAN, A; DEPLA, E; **MAERTENS, G**
PA (INNO-N) **INNOGENETICS NV**
CYC 95
PI WO 2001030815 A1 20010503 (200133)* EN 65 C07K014-18 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001011445 A 20010508 (200149) C07K014-18 <--
BR 2000015170 A 20020625 (200251) C07K014-18 <--
NO 2002001993 A 20020627 (200255) C07K000-00
EP 1224214 A1 20020724 (200256) EN C07K014-18 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
KR 2002047286 A 20020621 (200280) C07K014-18 <--
HU 2002003195 A2 20021228 (200308) C07K014-18 <--
CN 1384839 A 20021211 (200324) C07K014-18 <--
JP 2003513022 W 20030408 (200333) 84 C07K014-18 <--
CZ 2002001819 A3 20030618 (200347) C07K014-18 <--
NZ 518095 A 20030926 (200366) C07K014-18 <--
ZA 2002003169 A 20030923 (200368) 73 C07K000-00
MX 2002004052 A1 20021201 (200377) A61K039-29 <--
US 2004185061 A1 20040923 (200463) C12Q001-70
ADT WO 2001030815 A1 WO 2000-EP10499 20001025; AU 2001011445 A AU 2001-11445 20001025; BR 2000015170 A BR 2000-15170 20001025, WO 2000-EP10499 20001025; NO 2002001993 A WO 2000-EP10499 20001025, NO 2002-1993 20020426; EP 1224214 A1 EP 2000-972863 20001025, WO 2000-EP10499 20001025; KR 2002047286 A KR 2002-705362 20020426; HU 2002003195 A2 WO 2000-EP10499 20001025, HU 2002-3195 20001025; CN 1384839 A CN 2000-814993 20001025; JP 2003513022 W WO 2000-EP10499 20001025, JP 2001-533812 20001025; CZ 2002001819 A3 WO 2000-EP10499 20001025, CZ 2002-1819 20001025; NZ 518095 A NZ 2000-518095 20001025, WO 2000-EP10499 20001025; ZA 2002003169 A ZA 2002-3169 20020422; MX 2002004052 A1 WO 2000-EP10499 20001025, MX 2002-4052 20020423; US 2004185061 A1 **Div ex WO 1995-EP3031 19950731, Div ex US 1996-612973 19960311, Cont of US 1997-928017 19970911**, Cont of US 1999-795289 19991207, CIP of US 2001-973025 20011010, US 2004-825219 20040416
FDT AU 2001011445 A Based on WO 2001030815; BR 2000015170 A Based on WO

2001030815; EP 1224214 A1 Based on WO 2001030815; HU 2002003195 A2 Based on WO 2001030815; JP 2003513022 W Based on WO 2001030815; CZ 2002001819 A3 Based on WO 2001030815; NZ 518095 A Based on WO 2001030815; MX 2002004052 A1 Based on WO 2001030815; US 2004185061 A1 Div ex US 6150134

PRAI US 1999-169288P 19991207; EP 1999-870225 19991027; **EP 1994-870132 19940729**

IC ICM **A61K039-29**; C07K000-00; **C07K014-18**; C12Q001-70
ICS A61K039-00; A61P001-16; A61P031-12; A61P031-14; C07K014-02; C07K016-10; C12N015-51; C12Q001-26; G01N033-15; G01N033-50; G01N033-576

AB WO 200130815 A UPAB: 20050419
NOVELTY - An **Hepatitis C** virus (**HCV**) protein (I), or its functionally equivalent part, comprising at least two cysteine amino acids, which have a reversible redox status, is new.

DETAILED DESCRIPTION - An **Hepatitis C** virus (**HCV**) protein (I), or its functionally equivalent part, comprising at least two cysteine amino acids, which are comprised in the amino acid sequence Cys-X1-X2-Cys, where amino acids X1 and X2 denote any amino acid.

An INDEPENDENT CLAIM is also included for a bioassay for identifying compounds that modulate the oxido-reductase activity of (I), which involves exposing cells expressing (I) to at least one compound whose ability to modulate the oxido-reductase activity of the proteins is sought to be determined, and then monitoring the proteins for changes in oxido-reductase activity.

ACTIVITY - Virucide.

MECHANISM OF ACTION - Vaccine. No supporting data given.

USE - (I) is useful as a medicament, in the manufacture of an **HCV** vaccine composition, in particular a therapeutic vaccine composition or a prophylactic vaccine composition, and for raising antibodies, that specifically recognize (I). (I) is also useful in immunoassay for detecting **HCV** antibody, by providing (I), incubating a biological sample with (I) under conditions that allow formation of **HCV** antibody-**HCV** protein complex, and determining whether the **HCV** antibody-**HCV** protein complex is formed (claimed). (I) is also useful for treating and preventing disorders and diseases related to **HCV** infections. **HCV** proteins are also useful for various studies, for e.g., studies on drug screening, biological activities, signal-transduction pathways, intra- and extracellular processing, interactions, and binding between **HCV** and/or non-**HCV** molecules, oligomerization, conformational epitopes, antibody screening, metabolism, and enzymatic activity, and immunoreactivity. (I) is also useful for various diagnostic and therapeutic applications.

ADVANTAGE - **HCV** proteins have for the first time a native protein-like conformation, due to reversible redox status of cysteinyl residues.

Dwg.0/16

FS CPI EPI
FA AB; DCN
MC CPI: B04-C01A; B04-F11; B04-L03D; B04-N03; B11-C07A; B14-A02; B14-N12; B14-S11A; D05-H07; D05-H09

TECH UPTX: 20050419
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preparation: (I) is obtained by purifying an **HCV** protein or its functionally equivalent part, in which the cysteine residues are reversibly protected by chemical and/or enzymatic processes, removal of the reversibly protection state of the cysteine residues, and obtaining an **HCV** protein or its functionally equivalent part, in which the cysteine residues have a reversible redox status (claimed).
Preferred Protein: (I) is chosen from **E1s** or E1p and

X1 = Val, Leu or Ile
X2 = Pro.

ABEX UPTX: 20050419
ADMINISTRATION - 0.01-1000 microg/dose, typically 0.1-100 microg/dose of (I) is administered through oral, intramuscular or intravenous route.

EXAMPLE - **Hepatitis C** virus **envelope** protein (**HCV E1s**) (amino acids **192-326**) was expressed and purified from Vero cells using recombinant vaccinia virus pv-HCV11A according to the protocol as described in Maertens et al. (PCT/EP 95/03031) except that the blocking of the thiol groups was done with lodoacetamine and N-ethylmaleimide (NEM) during the lysis and after the reduction with DTT, respectively. Therefore, blocking free thiols with IAA (Iodoacetamide) in the lysis buffer, and alkylation with NEM after the reduction step with DTT were carried out. The purified **E1s** were concentrated by ultrafiltration, deglycosylated with N-glycosidase F after which the **E1s** were loaded on a 15% PolyAcrylAmide minigel. SDS-PAGE (sodium dodecyl sulfate polyacrylamide gel electrophoresis) was performed. The protein bands were cut in the ca.18 kDalton region after size separation and staining. Proteins were cleaved by in situ trypsinolysis, and the resulting peptide digest was analyzed by mass spectroscopy to determine the derivatization state of the different cysteine-residues.

L119 ANSWER 4 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **2001-188254** [19] WPIX
DNC **C2001-056613**
TI Immunodominant epitope of **envelope 1** and **envelope** 2 protein in **hepatitis C** virus - NoAbstract.
DC B04
IN CHO, J M; CHOI, D Y; KIM, C H
PA (GLDS) LG CHEM CO LTD
CYC 1
PI KR 236765 B1 20000115 (200119)* C07K014-02
ADT KR 236765 B1 **KR 1993-5663 19930403**
PRAI **KR 1993-5663 19930403**
IC ICM C07K014-02
FS CPI
FA NOAB
MC CPI: B04-B04C1; B04-F11; B04-N04

L119 ANSWER 5 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **2000-246569** [21] WPIX
DNC **C2000-074640**
TI **Hepatitis C** virus polypeptides is useful as a vaccine for treating **Hepatitis C** virus infection and for activating cytotoxic T lymphocytes.
DC B04 D16
IN ARICHI, T; BERZOFSKY, J A; FEINSTONE, S M; MAJOR, M E; PENDLETON, C D; SAROBE, P
PA (USSH) US DEPT HEALTH & HUMAN SERVICES; (BERZ-I) BERZOFSKY J A; (FEIN-I) FEINSTONE S M; (MAJO-I) MAJOR M E; (SARO-I) SAROBE P
CYC 88
PI WO 2000011186 A1 20000302 (200021)* EN 78 C12N015-40
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM

TR TT UA UG US UZ VN YU ZA ZW
AU 9957767 A 20000314 (200031) C12N015-40
EP 1105496 A1 20010613 (200134) EN C12N015-40
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
US 6685944 B1 20040203 (200413) A61K039-29 <--
US 2005129705 A1 20050616 (200540) C12Q001-70

ADT WO 2000011186 A1 WO 1999-US18674 19990817; AU 9957767 A AU 1999-57767 19990817; EP 1105496 A1 EP 1999-945074 19990817, WO 1999-US18674 19990817; US 6685944 B1 **Provisional US 1998-97446P 19980821**, WO 1999-US18674 19990817, US 2001-763260 20011019; US 2005129705 A1 Div ex US 2001-763260 20011019, US 2004-770117 20040202

FDT AU 9957767 A Based on WO 2000011186; EP 1105496 A1 Based on WO 2000011186; US 6685944 B1 Based on WO 2000011186; US 2005129705 A1 Div ex US 6685944

PRAI **US 1998-97446P 19980821**; US 2001-763260 20011019

IC ICM **A61K039-29**; C12N015-40; C12Q001-70
ICS C07H021-04; C07K014-02; **C07K014-18**; C12N005-06; C12N005-08; C12N015-86

AB WO 200011186 A UPAB: 20000502
NOVELTY - An isolated peptide is new.
DETAILED DESCRIPTION - An isolated peptide (I) is new and comprises a 9 amino acid sequence:
(I) Asp-Leu-Met-Gly-Tyr-Ile Pro Ala Val.
INDEPENDENT CLAIMS are also included for the following:
(1) an isolated nucleic acid (II) encoding (I);
(2) a vector (III) comprising (II);
(3) a cell (IV) comprising (III);
(4) a cell comprising (II);
(5) a **hepatitis C** virus core polypeptide comprising an L to an A substitution at amino acid position 139;
(6) a **hepatitis C** virus core polypeptide comprising a 191 amino acid sequence (fully defined in the specification);
(7) a fragment of a **hepatitis C** virus core polypeptide having fewer amino acids than the entire **hepatitis C** virus core polypeptide comprising the amino acid sequence (I);
(8) a method for producing (I) having enhanced immunogenicity;
(9) a method of producing an immune response in an immune cell of a subject comprising contacting the cell with (I), (II), (III) or a composition comprising (I), (II) or (III);
(10) a method of treating or preventing **hepatitis C** infection in a subject comprising contacting an immune cell of the subject with (I), (II) or (III) or a composition comprising (I), (II) or (III);
(11) a method of activating a cytotoxic T lymphocyte comprising contacting the lymphocyte with (I) in the presence of a class I major histocompatability complex molecule;
(12) a method of activating a cytotoxic T lymphocyte comprising contacting the lymphocyte with a class I MHC-expressing cell to which the polypeptide (fragment) is bound;
(13) a composition comprising cytotoxic T lymphocytes activated by contact with (I) in the presence of class I major histocompatability complex molecule;
(14) a method of detecting the presence of **hepatitis C** virus core polypeptide in a cell comprising:
(a) contacting the cell with an activated cytotoxic T lymphocytes under conditions where cytolysis of target cells can occur and detecting cytolysis, where the detection of cytolysis indicates the presence of **hepatitis C** virus core polypeptide in the cell;
(b) contacting the cell with the activated cytotoxic T lymphocytes under conditions where cytokine production in the lymphocytes can occur

and detecting cytokine production in lymphocytes where the detection cytokine production in the lymphocytes indicates the presence of **hepatitis C** virus core polypeptide in the cell;

(c) contacting the cell which is susceptible to infection by **hepatitis C** virus under conditions where the cell can be infected by **hepatitis C** virus in the sample, contacting the cell with the cytolytic T lymphocytes where cytolysis of target cells occur and detecting cytolysis of target cells where the detection of cytolysis of target cells indicates the presence of **hepatitis C** virus in the sample;

(d) contacting the sample with a cell which is susceptible to infection by **hepatitis C** virus under conditions where the cell can be infected by **hepatitis C** virus in the sample, contacting the cell with the cytolytic T lymphocytes under conditions where cytokine production in the lymphocytes can occur in the lymphocytes and detecting the cytokine production in the lymphocytes indicates the presence of **hepatitis C** virus in the sample;

(e) contacting cytotoxic T lymphocytes of the subject with (I) in the presence of a class I MHC molecule under conditions where cytolysis of target cells can occur and detecting cytolysis of target cells where the detection of cytolysis of target cells indicates a diagnosis of **hepatitis C** virus infection;

(f) contacting cytotoxic T lymphocytes of the subject with (I) in the presence of a class I MHC molecule under conditions where cytokine production in the lymphocytes can occur and detecting the cytokine production in the lymphocytes where the detection of cytokine production in the lymphocytes indicates a diagnosis of **hepatitis C** viral infection;

(15) a method of determining a viral load of **hepatitis C** virus in a subject comprising:

(a) serially diluting a biological sample from the subject which contains **hepatitis C** virus;

(b) contacting each serially diluted sample with a cell which is susceptible to infection by **hepatitis C** virus under conditions where the cell can be infected by **hepatitis C** virus in the sample;

(c) contacting the cell with the cytolytic T lymphocytes under conditions where cytokine production can occur in the lymphocytes;

(d) measuring the amount of cytokine production in the lymphocytes;

(e) comparing the amount of cytokine production in the lymphocytes with the amount of cytokine production produced by activated cytotoxic T lymphocytes contacted with cells infected with serially diluted control samples containing a known amount of hepatitis C virus; and

(f) determining the viral load of hepatitis C virus in the subject from the comparison of (e); and

(16) a method of determining the prognosis of a subject diagnosed with hepatitis C virus infection comprising determining a viral load for the subject where a high viral load indicates a poor prognosis and a low viral load indicates a good prognosis.

ACTIVITY - Virucide.

MECHANISM OF ACTION - Vaccine; Gene therapy.

The in vivo immunogenicity of C7A2 derived peptides was tested in the AAD transgenic mouse model. Different groups of animals were immunized with substituted cytotoxic T lymphocytes (CTL) peptides with a helper epitope and cytokines. The ability of the peptide to induce an immune response was tested in CTL cytotoxicity assays. The peptides C7A2-WT and 8A were found to induce clear CTL responses.

USE - (I), (II), (III) and (IV) are useful for producing immune response and for treating or preventing HCV infection. (I), (II), (III)

and (IV) either bound to the cell expressing class I MHC or in the presence of class I (MHC) is useful in activating cytotoxic T lymphocytes. The composition is useful for detecting the presence of HCV core polypeptide and/or HCV virus in a cell by detecting the cytolysis of target cell or cytokine production in the lymphocytes when it is contacted with the target cell. (I), (II), (III) and (IV) are useful for diagnosing HCV infection in a cell by detecting cytolysis of target cell or cytokine production in the lymphocytes when it is contacted with the target cell. The composition is also useful for determining HCV load and thereby the prognosis of the viral infection in a subject by contacting the serially diluted sample with a cell susceptible to infection by HCV and with cytolytic T lymphocytes; and determining the amount of cytokine production or the amount of cytolysis.

ADVANTAGE - The peptides have enhanced immune response against HCV.

Dwg.1/9

FS CPI
FA AB; GI; DCN
MC CPI: B04-C01B; B04-E02F; B04-E03F; B04-E08; B04-F0100E; B04-H01; B04-N03A; B11-C08E; B12-K04A4; B14-A02; B14-G01; B14-L01; B14-S03; B14-S11A; D05-C12; D05-H06; D05-H12A; D05-H12E; D05-H14; D05-H17
TECH UPTX: 20000502

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preparation: (I) is produced by:
(a) substituting one or more amino acids of the amino acid sequence Asp-Leu-Met-Gly-Tyr-Ile-Pro-Leu-Val;
(b) detecting enhanced immunogenicity of the substituted peptide as compared to the immunogenicity of a control peptide having the amino acid sequence as above, where a substituted peptide has greater immunogenicity than the control peptide is a peptide of **hepatitis C** virus core polypeptide having enhanced immunogenicity.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: (I), (II) and (III) can be prepared by standard synthetic techniques.

ABEX UPTX: 20000502

ADMINISTRATION - (I), (II) and (III) can be administered orally, parenterally, subcutaneously, transdermally, extracorporeally or topically. Dosage is 50-1000 (especially 100-500) nM.

EXAMPLE - No relevant example is given.

L119 ANSWER 6 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN 2000-147201 [13] WPIX
CR 1996-129401 [13]; 2001-316323 [33]; 2002-599657 [64]
DNN N2000-108947 DNC C2000-046058
TI Novel **HCV envelope** protein particles used for vaccination against **HCV** infection.
DC B04 D16 S03
IN BOSMAN, A; DEPLA, E; **MAERTENS, G**; VAN WIJNENDAELE, F; **BOSMAN, F**; **BUYSE, M**; WIJNENDAELE, F V
PA (INNO-N) **INNOGENETICS NV**; (BOSM-I) BOSMAN F; (BUYS-I) BUYSE M; (MAER-I) MAERTENS G; (INNO-N) **INNOGENETICS**
CYC 87
PI WO 9967285 A1 19991229 (200013)* EN 104 C07K014-18 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9946152 A 20000110 (200025) C07K014-18 <--
EP 1090033 A1 20010411 (200121) EN C07K014-18 <--

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI

CZ 2000004802 A3 20010613 (200138) C07K014-18 <--
KR 2001053181 A 20010625 (200173) C07K014-18 <--
HU 2001002478 A2 20011029 (200175) C07K014-18 <--
CN 1313864 A 20010919 (200202) C07K014-18 <--
BR 9911397 A 20020115 (200214) C07K014-18 <--
JP 2002518037 W 20020625 (200243) 106 C12N015-09
MX 2000012473 A1 20011201 (200282) A61K039-29 <--
US 2003095980 A1 20030522 (200336) A61K039-12
ZA 2000007318 A 20030528 (200341) 121 C07K000-00
US 2003118603 A1 20030626 (200343) C07K014-02
US 6635257 B1 20031021 (200370) A61K039-29 <--
US 2003202987 A1 20031030 (200372) A61K039-29 <--
AU 765940 B 20031002 (200373) C07K014-18 <--
NZ 508797 A 20040227 (200418) C07K014-18 <--
NZ 528952 A 20040924 (200465) G01N033-576
EP 1090033 B1 20041229 (200502) EN C07K014-18 <--

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI

DE 69922958 E 20050203 (200510) C07K014-18 <--
RU 2247729 C2 20050310 (200519) C07K014-18 <--
EP 1555270 A1 20050720 (200547) EN C07K014-18 <--

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI

ES 2237115 T3 20050716 (200549) C07K014-18 <--
MX 230244 B 20050831 (200607) C07K014-18 <--

ADT WO 9967285 A1 WO 1999-EP4342 19990623; AU 9946152 A AU 1999-46152 19990623; EP 1090033 A1 EP 1999-929306 19990623, WO 1999-EP4342 19990623; CZ 2000004802 A3 WO 1999-EP4342 19990623, CZ 2000-4802 19990623; KR 2001053181 A KR 2000-714761 20001223; HU 2001002478 A2 WO 1999-EP4342 19990623, HU 2001-2478 19990623; CN 1313864 A CN 1999-809890 19990623; BR 9911397 A BR 1999-11397 19990623, WO 1999-EP4342 19990623; JP 2002518037 W WO 1999-EP4342 19990623, JP 2000-555936 19990623; MX 2000012473 A1 MX 2000-12473 20001214; US 2003095980 A1 **Div ex WO 1995-EP3031 19950731, Div ex US 1996-612973 19960311, CIP of US 1997-928017 19970911**, Div ex WO 1999-EP4342 19990623, Div ex US 1999-355040 19990723, Provisional US 2000-304194P 20001201, Provisional US 2001-260669P 20010111, Provisional US 2001-315768P 20010830, US 2001-995808 20011129; ZA 2000007318 A ZA 2000-7318 20001208; US 2003118603 A1 CIP of WO 1999-EP4342 19990623, CIP of US 1999-355040 19990723, Provisional US 2000-304194P 20001201, Provisional US 2001-260669P 20010111, Provisional US 2001-315768P 20010830, US 2001-995860 20011129; US 6635257 B1 WO 1999-EP4342 19990623, US 1999-355040 19990723; US 2003202987 A1 Div ex WO 1999-EP4342 19990623, Div ex US 1999-355040 19990723, US 2003-414219 20030416; AU 765940 B AU 1999-46152 19990623; NZ 508797 A NZ 1999-508797 19990623, WO 1999-EP4342 19990623; NZ 528952 A Div ex NZ 1999-508797 19990623, NZ 1999-528952 19990623; EP 1090033 B1 EP 1999-929306 19990623, WO 1999-EP4342 19990623, Related to EP 2004-103826 19990623; DE 69922958 E DE 1999-622958 19990623, EP 1999-929306 19990623, WO 1999-EP4342 19990623; RU 2247729 C2 WO 1999-EP4342 19990623, RU 2001-101869 19990623; EP 1555270 A1 Div ex EP 1999-929306 19990623, EP 2004-103826 19990623; ES 2237115 T3 EP 1999-929306 19990623; MX 230244 B WO 1999-EP4342 19990623, MX 2000-12473 20001214

FDT AU 9946152 A Based on WO 9967285; EP 1090033 A1 Based on WO 9967285; CZ 2000004802 A3 Based on WO 9967285; HU 2001002478 A2 Based on WO 9967285; BR 9911397 A Based on WO 9967285; JP 2002518037 W Based on WO 9967285; US 2003095980 A1 Div ex US 6150134; US 6635257 B1 Based on WO 9967285; AU 765940 B Previous Publ. AU 9946152, Based on WO 9967285; NZ 508797 A Div in NZ 528952, Based on WO 9967285; NZ 528952 A Div ex NZ 508797; EP

1090033 B1 Based on WO 9967285; DE 69922958 E Based on EP 1090033, Based on WO 9967285; RU 2247729 C2 Based on WO 9967285; EP 1555270 A1 Div ex EP 1090033; ES 2237115 T3 Based on EP 1090033; MX 230244 B Based on WO 9967285

PRAI EP 1999-870033 19990222; **EP 1998-870142 19980624**; **EP 1994-870132 19940729**

IC ICM A61K039-12; **A61K039-29**; C07K000-00; C07K014-02; **C07K014-18**; C12N015-09; G01N033-576

ICS A61K039-00; A61K039-395; A61P031-12; A61P037-00; C07K001-00; C07K014-00; C07K016-10; C07K017-00; C12N001-14; C12N001-16; C12N001-18; C12N007-00; C12N007-01; C12P021-02; C12Q001-02; G01N033-53

AB WO 9967285 A UPAB: 20060130

NOVELTY - Oligomeric particle (I) comprising **Hepatitis C** virus (**HCV**) **envelope** proteins and having a diameter of **1**-100 nm, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(**1**) a purified single **HCV envelope** protein (preferably **E1** or **E1s**);

(2) specific antibodies generated against (I), or the protein of (1);

(3) a kit for detecting **HCV** antigens, comprising the antibody of (2);

(4) a kit for detecting **HCV** antibodies in a sample, comprising (I), or the protein of (1);

(5) a kit for detecting an **HCV** related T cell response, comprising (I) or the protein of (1).

(6) an immunoassay for detecting **HCV** antibody, comprising incubating a biological sample with (I) or the protein of (1) and determining whether antigen-antibody complexes are formed.

ACTIVITY - Virucide; hepatotropic; antiinflammatory.

MECHANISM OF ACTION - Vaccine.

USE - The oligomeric particles (I) of the invention containing **Hepatitis C** virus (**HCV**) **envelope** proteins are used in vaccine compositions against **HCV**; for inducing immunity against **HCV** in chronic **HCV** carriers, especially prior to, simultaneously with, or after any other therapy; for inducing immunity against **HCV** in **HCV**-infected individuals prior to or after liver transplantation or after presumed infection; and for prophylactically inducing immunity against **HCV**. Antibodies raised against (I) are used to detect **HCV** antigens, and to treat or prevent **HCV** infection. (I) is used in detecting **HCV** antibodies in a sample, and for detecting **HCV** related T cell responses. (All claimed).

ADVANTAGE - Prior art methods for **Hepatitis C** virus (**HCV**) vaccination have not been successful. Prophylactic vaccination has also only been shown to be effective against a homologous strain of **HCV**. The present invention provides methods for successful vaccination against **HCV**.

Dwg.0/38

FS CPI EPI

FA AB; DCN

MC CPI: B04-C01G; B04-E02F; B04-G01; B04-G08; B04-N03A; B11-C07A; B12-K04A4; B14-A02; B14-N12; B14-S11A; D05-C12; D05-H09; D05-H11; D05-H12A; D05-H17A6; D05-H17B6

EPI: S03-E14H4

TECH UPTX: 20000313

TECHNOLOGY FOCUS - BIOLOGY - Preferred Particle: (I) has a diameter of 2-40 nm. (I) may contain non-**HCV** epitopes. The **HCV envelope** (env) proteins may be encoded by an isolate nucleotide

consensus sequence, subtype nucleotide consensus sequence, species nucleotide consensus sequence or genus nucleotide consensus sequence. Preferred Protein: The amino acid sequence of the **HCV** env protein of (I) is a consensus sequence derived from an isolate, subtype, strain or genus-consensus sequence. At least one Cys residue of the env protein is alkylated, preferably be means of active halogens, ethylenimine, or N-(iodoethyl)trifluoroacetamide. Alternatively, at least one Cys residue of the env protein is mutated to a natural amino acid, preferably selected from Met, Glu, Gln and Lys. The **HCV** env proteins are **E1**, **E1s** and/or E2 proteins and preferably have the one of the two mature E2 amino acid sequences of 308 and 307 residues (A and B respectively) given in the specification. The env proteins can be derived from different **HCV** strains or genotypes. Production: (I) is produced by purifying **HCV** env proteins in solution, optionally using a first detergent, a disulfide bond cleavage agent, and an alkylating agent; replacing the solution of purified **HCV** env proteins with a detergent or salt, resulting in oligomeric particles; purifying the particles; and optionaly further reducing the concentration of the detergent or salt. The first detergent is Empigen-BB (preferably used at a concentration of **1**%-10%), and the detergent of step (b) is CHAPS (preferred; used at a concentration of 0.01%-10%), octylglucoside, Tween (preferred; used at a concentration of 0.01%-10%), or any other detergent, and the salt is betaine (used at a concentration of 0.01%-10%).
Preferred composition: The composition of (**1**) also comprises **HCV** core, P7, **E1**, E2, NS2, NS3 (comprising one of the two sequences given in the specification), NS4A, NS4B, NS5A and/or NS5B proteins, or parts thereof.

ABEX UPTX: 20000313
ADMINISTRATION - For vaccine compositions, the dose is 0.01-1000 mug/dose, preferably 0.1-100 mug/dose.

EXAMPLE - **E1s envelope** proteins from **Hepatitis C** virus (**HCV**) was purified, and particles produced. These were used to immunize mice. In total, 3 series of 6 mice each were immunized with **E1s** using 3 injections with a three week interval, each injection comprising 5 micro g **E1s** at 100 micro g/ml PBS and mixed with an equal volume of RIBI adjuvant. Finally, all mice were bled 10 days after the third immunization. End point titers for each animal individually were determined. Mice that received **E1** -maleimide mounted an antibody response only to maleimide-containing epitopes, while mice that received **E1**-acetamide mounted an antibody response to **E1** epitopes.

L119 ANSWER 7 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **2000-012789** [01] WPIX
DNC **C2000-002329**
TI Preparing **hepatitis C** virus envelope glycoproteins for use as vaccines.
DC B04 D16
IN KIM, J; MIN, M; MOON, H; PARK, J; YUN, Y
PA (MOGA-N) MOGAM BIOTECHNOLOGY RES INST
CYC 1
PI US 5985609 A 19991116 (200001)* 23 C12N015-51
ADT US 5985609 A **US 1994-334545 19941104**
PRAI **US 1994-334545 19941104**
IC ICM C12N015-51
ICS C07H021-04; C12Q001-70
AB US 5985609 A UPAB: 20000105
NOVELTY - A process (I) for preparing **hepatitis C**

virus (**HCV**) envelope glycoproteins using Chinese Hamster Ovary (CHO) cells transformed with recombinant expression vectors containing the **HCV** genome, is new.

DETAILED DESCRIPTION - A process (I) for preparing **hepatitis C** virus (**HCV**) **E1** and/or E2/NS1 envelope glycoproteins, comprises culturing Chinese Hamster Ovary (CHO) cells transformed with an expression vector which encodes either **HCV E1** or full length **HCV** E2/NS1 (respectively) envelope glycoproteins. The **E1** and/or E2/NS1 envelope glycoproteins are not expressed as part of a polyprotein. For the production of **E1**, the cultured cells are cell line KCLRF-BP-00003 and the expression vector is vector E113. For the production of E2/NS1, the cultured cells are cell line KCLRF-BP-00004 and the expression vector is E219.

USE - (I) may be used to produce **HCV** envelope glycoproteins (**E1** and/or E2/NS1) for use as vaccines to immunize against hepatitis. The antibodies produced from these antigens may also be used as a diagnostic reagent for detecting the presence of **HCV** viral particles in samples.

ADVANTAGE - (I) may be used to produce antigens in large quantities for use as vaccines. This avoids the need to isolate viruses from infected patients (or cell cultures expressing viral particles) for attenuation which is a very laborious process with low yields.

Dwg.0/6

FS CPI

FA AB; DCN

MC CPI: B04-E08; B04-F0300E; B04-F1100E; B04-G08; B04-N0300E; B12-K04A4; B14-S11A; D05-A04; D05-C12; D05-H06; D05-H07; D05-H08; D05-H09; D05-H11; D05-H12A; D05-H12D5; D05-H12E; D05-H13; D05-H14B2; D05-H17A5; D05-H18

TECH UPTX: 20000105

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Method: In (I), the expression vector comprises DNA encoding a 35 amino acid tPA (tissue plasminogen activator) signal sequence operably linked to either DNA encoding the **E1** and/or DNA encoding the E2/NS1 envelope glycoproteins. (I) further comprises recovering the envelope glycoproteins expressed by the host cell culture.

ABEX UPTX: 20000105

WIDER DISCLOSURE - Also disclosed as new are:
(**1**) the use of the **E1** and/or E2/NS1 **envelope** glycoproteins in the production of antibodies;
(2) the use of antibodies to **E1** and/or E2/NS1 as diagnostic reagents to detect the presence of **HCV** particles in samples; and
(3) vectors and host cells comprising DNA encoding the **envelope** glycoproteins.

EXAMPLE - Dihydrofolate reductase (DHFR) deficient Chinese Hamster Ovary (CHO) cells (DG44) were transformed (according to standard methodology) with recombinant expression vectors encoding the **hepatitis C** virus (**HCV**) **envelope** glycoproteins **E1** and E2/NS1 and the DHFR minigene pDCHIP. The transformed DHFR-positive CHO cells were first screened in selection medium of nucleoside free-alpha Modified Eagle's medium (MEM) supplemented with 10% fetal calf serum dialyzed in phosphate-buffered saline. 20 - 100 colonies per 35 mm dish were formed after 10-14 days growth in selection media. The recombination rate was determined to be **1** - 3% depending on the ratio of **HCV E1** or E2/NS1 expression vector and DHFR minigene. Twenty colonies were individually subjected to a stepwise selection in progressively increasing concentrations of methotrexate (MTX) (from 10 nM to 10 microliters). The remaining colonies were pooled and treated as for individual colony. Several rounds of selection with the MTX gave 2 individual and **1** pool of **HCV E1** and

E2/NS1 transformed cell lines. The stable transformed cell lines were designated as **HCV** E17, **HCV** E113, **HCV** E1P11 for the **HCV** E1 clones and **HCV** E211, **HCV** E219 and **HCV** E2P22 for the **HCV** E2/NS1 clones.
To verify the amplification of **HCV E1** and E2/NS1 genes after several rounds of selection with increasing concentrations of the MTX (form 10 nM to 10 microliters), Southern blot analysis of genomic DNA was performed. Genomic DNA was prepared from each transformed CHO cell in accordance with the modified method of Blin and Stafford (see Blin et al., Nucleic Acids Res. (1976)) and digested with BamHl. The fractionated DNA fragments in a 0.8% agarose gel were transferred to a nitrocellulose membrane. Hybridization was undertaken with a nick-translated **E1** , E2/NS1 or DHFR gene probe using a conventional procedure. Southern blot analysis showed that the **HCV E1** and E2/NS1 genes were inserted at several random sites in the CHO cell genome and were progressively amplified as the concentrations of MTX were increased. The restriction pattern of the genomic DNA derived from each transformed CHO cell line did not change after selection with a certain concentration of MTX which indicated that they became molecularly stable.
The **HCV E1** and E2/NS1 recombinant CHO cell lines (i.e. **HCV** E17, **HCV** E113, **HCV** E1P11 and **HCV** E211, **HCV** E219 and **HCV** E2P22) adapted in MTX, were grown in a T-25 flask to prepare cell lysates and the culture supernatant. The culture supernatant was ultracentrifuged at 25000 revolutions per minute (rpm) for **1** hour (hr) to generate a pellet of secreted protein. Cell lysates and the pellet of secreted proteins were subjected to electrophoresis on 10% sodium dodecylsulfate polyacrylamide gel electrophoresis (SDS-PAGE). One gel was stained with Coomassie blue R and the other was subjected to blotting to a nitrocellulose membrane for immunoblot analysis. Immunoblot analysis was undertaken using anti-**HCV** seropositive but anti-HBV seronegative patient sera as a primary antibody (in **1**:100 dilution) and horse radish peroxidase conjugated goat anti-human immunoglobulin (Ig)-G as the secondary antibody (in **1**:2500 dilution).
Each **HCV E1** recombinant cell line showed similar or comparable levels of **HCV E1** expression as determined by immunoblot analysis and the same result was obtained in the case of **HCV** E2/NS1 recombinant CHO cell lines. However. It was determined that **HCV E1** 13 and **HCV** E219 cell lines showed the most stable growth pattern. Therefore, these cell lines were selected for further experiments. The said cell lines were named with E113 and E219 (respectively) and deposited with the Korean Cell Line Research Foundation (KCLRF) an International Depository Authority (IDA) as deposition Numbers KCLRF-BP-00003 and KCLRF-BP-00004.

L119 ANSWER 8 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN 1999-542955 [46] WPIX
DNN N1999-402686 DNC C1999-158676
TI New anti-**Hepatitis C** virus (**HCV**) antibodies useful for in situ detection of **HCV**.
DC B04 D16 S03
IN **BUYSE, M**; DEPLA, E; **MAERTENS, G**
PA (INNO-N) **INNOGENETICS NV**
CYC 87
PI EP 947525 A1 19991006 (199946)* EN 32 C07K016-10
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
WO 9950301 A2 19991007 (199949) EN C07K016-10
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

AU 9936022	A	19991018	(200010)		C07K016-10	
BR 9909026	A	20001205	(200101)		C07K016-10	
EP 1064309	A2	20010103	(200102)	EN	C07K016-10	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI						
CZ 2000003461	A3	20010214	(200119)		C07K016-10	
CN 1294598	A	20010509	(200146)		C07K016-10	
KR 2001042225	A	20010525	(200168)		C07K016-10	
HU 2001003650	A2	20020128	(200222)		C07K016-10	
JP 2002510038	W	20020402	(200225)	37	G01N033-576	
MX 2000009118	A1	20011001	(200274)		C07K014-18	<--
NZ 506553	A	20021122	(200301)		C07KQ16-10	
ZA 2000004383	A	20030129	(200314)	47	C07K000-00	
US 6521403	B1	20030218	(200317)		C12Q001-70	
AU 756495	B	20030116	(200324)		C07K016-10	
US 2003129746	A1	20030710	(200347)		C12Q001-70	
US 6841353	B2	20050111	(200505)		G01N033-53	
JP 3657515	B2	20050608	(200538)	18	G01N033-576	

ADT EP 947525 A1 **EP 1998-870060 19980327**; WO 9950301 A2 WO 1999-EP2154 19990329; AU 9936022 A AU 1999-36022 19990329; BR 9909026 A BR 1999-9026 19990329, WO 1999-EP2154 19990329; EP 1064309 A2 EP 1999-917909 19990329, WO 1999-EP2154 19990329; CZ 2000003461 A3 WO 1999-EP2154 19990329, CZ 2000-3461 19990329; CN 1294598 A CN 1999-804420 19990329; KR 2001042225 A KR 2000-710746 20000927; HU 2001003650 A2 WO 1999-EP2154 19990329, HU 2001-3650 19990329; JP 2002510038 W WO 1999-EP2154 19990329, JP 2000-541203 19990329; MX 2000009118 A1 MX 2000-9118 20000918; NZ 506553 A NZ 1999-506553 19990329, WO 1999-EP2154 19990329; ZA 2000004383 A ZA 2000-4383 20000824; US 6521403 B1 Cont of WO 1999-EP2154 19990329, US 2000-645470 20000824; AU 756495 B AU 1999-36022 19990329; US 2003129746 A1 Div ex US 2000-645470 20000824, US 2002-318200 20021213; US 6841353 B2 Div ex US 1999-645470 19990329, Div ex WO 1999-EP2154 19990329, US 2002-318200 20021213; JP 3657515 B2 WO 1999-EP2154 19990329, JP 2000-541203 19990329

FDT AU 9936022 A Based on WO 9950301; BR 9909026 A Based on WO 9950301; EP 1064309 A2 Based on WO 9950301; CZ 2000003461 A3 Based on WO 9950301; HU 2001003650 A2 Based on WO 9950301; JP 2002510038 W Based on WO 9950301; NZ 506553 A Based on WO 9950301; AU 756495 B Previous Publ. AU 9936022, Based on WO 9950301; US 2003129746 A1 Div ex US 6521403; US 6841353 B2 Div ex US 6521403; JP 3657515 B2 Previous Publ. JP 2002510038, Based on WO 9950301

PRAI **EP 1998-870060 19980327**

IC ICM C07K000-00; C07K016-10; C12Q001-70; G01N033-53; G01N033-576
ICS A61K038-00; **A61K039-29**; A61K039-395; A61K039-42; C07K005-00; C07K007-00; C07K016-00; C07K017-00; C12N005-06; C12N005-10; C12N005-16; C12N005-20; C12P021-08; G01N033-564

ICA C07K014-08; **C07K014-18**; C12N015-02

ICI **C07K014:18**; C12P021-08; C12R001:91

AB EP 947525 A UPAB: 19991110

NOVELTY - An antibody or its derivative (I) that specifically binds to the **C**-terminal region of the **Hepatitis C** virus (**HCV**) **E1** (amino acids (aa) 227-383) or the N-terminal region of the **HCV** E2 protein (aa 384-450) is new, and allows the in situ detection of **HCV** protein antigens.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a hybridoma cell line (II) secreting monoclonal (I);

(2) a method for the in situ detection of **HCV** protein antigens comprising:

(a) contacting a test sample which may contain **HCV** protein antigens with (I) to form an antibody-antigen complex; and
(b) detecting this complex with an appropriate marker; and
(3) an assay kit for the in situ detection of **HCV** protein antigens comprising:
(a) (I); and
(b) markers to detect complexes between (I) and **HCV** protein antigens.
USE - (I) is used to detect the **HCV E1** or E2 proteins in human peripheral blood cells or liver tissue (claimed). (I0 may also be used to detect (I) in other tissue and fluid samples such as serum, plasma, saliva, mucus and sections or biopsies such as from skin.
ADVANTAGE - No stated advantage given in the specification.
Dwg.0/4

FS CPI EPI
FA AB; DCN
MC CPI: B04-B04C1; B04-B04D4; B04-B04H; B04-B04L; B04-F04; B04-F0500E; B04-G08; B04-G21; B11-C07A; B12-K04A4; D05-C11; D05-H06; D05-H11A1; D05-H15; D05-H17A1
EPI: S03-E14H4
TECH UPTX: 19991110
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Antibody: (I) is a monoclonal antibody that binds to at least one of the epitopes aa 307--**326** of **HCV E1** protein or aa 395-415 of **HCV** E2 protein.
Preferred Method: The test samples used to detect (I) are human cells or tissues.
ABEX UPTX: 19991110
SPECIFIC HYBRIDOMAS - (I) is secreted by ECACC 98031215 or ECACC 98031214.

SPECIFIC SEQUENCES - Amino acids 307--**326** of **HCV E1** protein have the sequence Ser-Ile-Tyr-Pro-Gly-His-Ile-Thr-Gly-His-Arg-Met-Ala-Trp-Asp-Met-Met-Met-Asn-Trp. Amino acids 395-415 of **HCV** E2 protein have the sequence Asn-Thr-Arg-Gly-Leu-Val-Ser-Leu-Phe-Ser-Pro-Gly-Ser-Ala-Gln-Lys-Ile-Gln-Leu-Val-Asn.

EXAMPLE - Mice were immunized with truncated versions of E (amino acids (aa) **192-326**) and E2 (aa 384-673) expressed by recombinant vaccinia virus as described in PCT/EP 95/03031. After immunization, splenocytes from the mice were fused with a myeloma cell line. Resulting hybridomas secreting specific antibodies fro **E1** and E2 were selected using ELISA. The monoclonals found to bind **E1** or E2 were tested for ability to stain liver biopsies from **Hepatitis C** virus patients compared to controls. Only two monoclonal antibodies, designated ECACC 98031215 and ECACC 98031214, revealed clear specific staining.

L119 ANSWER 9 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1999-407152** [35] WPIX
CR 1992-009412 [02]; 1992-009617 [02]
DNN **N1999-303721** DNC **C1999-120483**
TI New hepatitis virus polypeptides, useful for diagnosing and treating hepatitis infections.
DC B04 D16 S03
IN FUKE, I; MORI, C; OKAYAMA, H; TAKAMIZAWA, A; YOSHIDA, I
PA (OSAU) UNIV OSAKA
CYC 14
PI EP 933426 A1 19990804 (199935)* EN 56 C12N015-40
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

ADT EP 933426 A1 **Div ex EP 1990-314371 19901228, EP 1999-106005 19901228**
FDT EP 933426 A1 Div ex EP 464287
PRAI **JP 1990-305605 19901109; JP 1990-167466 19900625; JP 1990-230921 19900831**
IC ICM C12N015-40
ICS **A61K039-29; C07K014-18**; C12Q001-70; G01N033-569
AB EP 933426 A UPAB: 19990902
NOVELTY - A polypeptide (I) comprising at least one amino acid sequence encoded by 20 polynucleotides which are portions of nucleotides 333-9362 of the non-A, non-B (NANB) hepatitis virus genome is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) at least one DNA polynucleotide or its complement (II) selected from 20 polynucleotides which are portions of nucleotides 333-9362 of the NANB hepatitis virus genome;

(2) production of (I);

(3) a vector (III) comprising (II);

(4) a diagnostic reagent comprising (I);

(5) a diagnostic reagent comprising (II);

(6) a vaccine comprising (I); and

(7) at least one RNA polynucleotide (IV) generated using (II) as a template.

ACTIVITY - Virucide; hepatotropic; antiinflammatory.

MECHANISM OF ACTION - Vaccine.

USE - (I) may used as a vaccine to administer to patients to treat or prevent NANB hepatitis infections (claimed). (I) and (II) may be used as diagnostic reagents to detect NANB hepatitis infections (claimed) in blood for transfusion. Specifically (II) may be used in a PCR-based screen using (II) as a primer or in a hybridization-based screen using (II) as a probe and (I) may be used in an immunoassay-based screen to detect antibodies against NANB virus. (I) may also be used to produce antibodies against (I).

ADVANTAGE - (I) may be produced on a large scale at low cost and without any biohazards. (I) specifically reacts with NANB virus so that diagnosis of NANB infections using (I) is reliable. NANB virus detected in blood screened for transfusion may be removed to prevent NANB virus infection in recipients of the blood. (I) is produced using recombinant techniques rather than infection of an animal with a virus. Therefore the chances of infection during preparation of (I) are eliminated.

Dwg.0/3
FS CPI EPI
FA AB; DCN
MC CPI: B04-B04C1; B04-E02F; B04-E08; B04-G01; B11-C08E5; B12-K04A4; B12-K04F; D05-C11; D05-H07; D05-H09; D05-H11; D05-H12A; D05-H12E; D05-H17A6
EPI: S03-E14H4
TECH UPTX: 19990902
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preparation: (I) is produced by transfecting host cells with (III) and culturing them, followed by isolation of (I), where (III) comprises nucleotides 333-6371, especially nucleotides 333-422 of the NANB hepatitis virus genome
Preferred Vector: (III) is preferably an animal virus vector.
Preparation: (IV) may be extracted and purified from patients' blood using standard techniques. (II) may be prepared from (IV) using standard double-stranded cDNA synthetic techniques.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: (I) may be purified from host cells expressing (II) using standard purification techniques.
ABEX UPTX: 19990902

SPECIFIC POLYPEPTIDES - (I) is the NANB **hepatitis** virus :
(1) core (**C**) protein encoded by nucleotides 333-677;
(2) matrix (M) protein encoded by nucleotides 678-905;
(3) **envelope** (E) **envelope** protein encoded by nucleotides 906-1499;
(4) NS1 protein encoded by nucleotides 1500-2519;
(5) NS2 protein encoded by nucleotides 2520-3350;
(6) NS3 protein encoded by nucleotides 3351-5177;
(7) NSa protein encoded by nucleotides 5178-5918;
(8) NS4b protein encoded by nucleotides 5919-6371; or
(9) NS5 protein encoded by nucleotides 6372-9362;
of the 9416 NANB nucleotide sequence given in the specification.

ADMINSTRATION - None given.
EXAMPLE - RNA from non-A, non-B (NANB) hepatitis virus was prepared from a sample of liver tissue from a hepatitis patient using standard techniques. This was used as a template to synthesize cDNA using a commercially available cDNA synthesis kit. The cDNA was used to generate a lambda gt11 cDNA expression library using standard methods which was then expressed in Escherichia coli strain Y 1090. The library of expressed proteins encoded by the RNA extracted from the liver sample was transferred to nitrocellulose filter using standard techniques and was then screened with pooled serum from NANB patients and incubated at room temperature for 30 minutes. The serum was then diluted 50-fold with 0.2% bovine serum albumin in TBS buffer and the filter incubated in it for 1 hour. The filter was then washed 4 times in TBS buffer containing 0.05% Tween 20 and was then immersed in a solution containing peroxidase-labeled antihuman IgG (1/1000) for 1 hour.The filter was washed in the TBS-Tween buffer as above and incubated fro 5-30 minutes in a solution containing 0.4 ml DAB (3,3'-diaminobenzidine tetrahydrochloride) and 15 microl of a 30% aqueous solution of hydrogen peroxide in 50 ml TBS buffer. The filter was washed with distilled water to terminate the reaction. 9 positive clones were isolated which only reacted with serum from patients suffering from NANB hepatitis.

L119 ANSWER 10 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN 1999-327360 [27] WPIX
DNC C1999-096942
TI Peptides from the **envelope** protein of **hepatitis** **C**-related viruses.
DC B04 D16
IN DEPLA, E; **MAERTENS, G**
PA (INNO-N) **INNOGENETICS NV**; (INNO-N) **INNOGENETICS NV SA**
CYC 83
PI WO 9924466 A2 19990520 (199927)* EN 49 C07K014-18 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9915609 A 19990531 (199941) C07K014-18 <--
EP 1028972 A2 20000823 (200041) EN C07K014-18 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2001522599 W 20011120 (200204) 59 C12N015-09
AU 752131 B 20020905 (200264) C07K014-18 <--
US 2004126754 A1 20040701 (200444) C12Q001-70
US 6855318 B1 20050215 (200513) A61K039-00
ADT WO 9924466 A2 **WO 1998-EP7105 19981106**; AU 9915609 A **AU**

1999-15609 19981106; EP 1028972 A2 **EP 1998-959858 19981106, WO 1998-EP7105 19981106**; JP 2001522599 W **WO 1998-EP7105 19981106, JP 2000-520474 19981106**; AU 752131 B **AU 1999-15609 19981106**; US 2004126754 A1 **Cont of WO 1998-EP7105 19981106**, Div ex US 2000-566266 20000505, US 2003-685435 20031016; US 6855318 B1 **Cont of WO 1998-EP7105 19981106**, US 2000-566266 20000505

FDT AU 9915609 A Based on WO 9924466; EP 1028972 A2 Based on WO 9924466; JP 2001522599 W Based on WO 9924466; AU 752131 B Previous Publ. AU 9915609, Based on WO 9924466

PRAI **EP 1997-870179 19971106**

IC ICM A61K039-00; **C07K014-18**; C12N015-09; C12Q001-70
ICS **A61K039-29**; C07K014-02; C07K016-08; C12P021-08; G01N033-53; G01N033-536; G01N033-576

AB WO 9924466 A UPAB: 20021105

NOVELTY - Peptides (I) that:

(i) contain more than 20 contiguous amino acids (aa) derived from the **envelope** region of a **hepatitis C** virus (**HCV**)-related virus (A) and

(ii) bind and recognize anti-(A) antibodies (Ab), also their functionally equivalent fragments or variants.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) combinations of (I);

(b) assay kit containing at least one (I), reagents for detecting formation of (I)-Ab complexes and optionally a solid support;

(c) methods for identifying modulators (II) of the interaction between (I) and Ab;

(d) (II) identified by these methods;

(e) plasmid vector containing a sequence that encodes (I) or (II), linked to transcription regulators; and (f) Ab.

ACTIVITY - Antiviral.

MECHANISM OF ACTION - (I) generate a specific immune response against viruses.

USE - (I) are used:

(i) to detect Ab in usual immunoassays, for diagnosing exposure to, or infection by, (A);

(ii) for identifying modulators (II) of (I)-Ab interaction.

Also (I), (II) and vectors that express nucleic acid encoding them, are useful as vaccines to protect humans against (A) or their mutant strains.

ADVANTAGE - (I) recognize most anti-**HCV** antibodies directed against **E1** and E2 proteins in the serum; contrast smaller known peptides or similar peptides expressed in prokaryotes. The peptide HVRI containing amino acids 384-415 of the E2 region of **HCV** (X) was synthesized and immobilized on streptavidin-coated plates.:

HTRVSGGAAASNTRGLVSLFSPGSAQKIQLVN (X).

These were reacted with serum samples from patients chronically infected with **HCV**, then binding determined using the reagents from the 'INNOTEST **HCV** Ab III' kit. 57% of the samples reacted with this peptide and a combination of it with 13 other peptides was able to detect antibodies in 91% of sera that reacted with the E2h protein (recombinant E2 fragment containing amino acids 384-708).

FS CPI
FA AB; DCN
MC CPI: B04-E08; B04-N03B; B12-K04A4; B14-A02; B14-N12; B14-S11A; D05-H06; D05-H07; D05-H12E
TECH UPTX: 19990714

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred peptides: These react with anti-**HCV** or anti-hepatitis G virus (HGV) **E1** and E2

antibodies in body fluids. Optionally (I) are biotinylated or contain cysteine bridges.
Preferred assay: To identify (II), Ab are allowed to react with at least one (I), the binding determined, then at least one test compound added, and any modulation of binding caused by this addition is determined. Alternatively, (I) is treated with test compound first, then Ab added and any alteration in binding detected.
Preparation: (I) can be made by usual recombinant DNA methods.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: (I) can be made by standard methods of peptide synthesis.

ABEX UPTX: 19990714
SPECIFIC PEPTIDES - 38 (I) are tabulated in the specification, e.g. YQVRNSTGLYHVTNDCPNSSIVYEAADAILHTPGC corresponding to positions 192-336 of the **E1** protein from **HCV** genotype 1a.

ADMINSTRATION - Doses of vaccine are 0.01-1000, particularly 0.1-100, mug, typically given by injection, although oral and rectal administration are also suitable. DNA vectors are administered e.g. with a 'gene gun'.

L119 ANSWER 11 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN 1999-327204 [27] WPIX
DNN N1999-245439 DNC C1999-096837
TI Diagnosis and treatment **Hepatitis C** virus infection.
DC B04 D16 P34 S03
IN DEPLA, E; **MAERTENS, G**
PA (INNO-N) **INNOGENETICS NV**
CYC 83
PI WO 9924054 A1 19990520 (199927)* EN 58 A61K038-17
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9915610 A 19990531 (199941) A61K038-17
EP 1028742 A1 20000823 (200041) EN A61K038-17
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2001522809 W 20011120 (200204) 63 A61K038-00
AU 756303 B 20030109 (200320) A61K038-17
US 6670114 B1 20031230 (200402) C12Q001-70
ADT WO 9924054 A1 **WO 1998-EP7107 19981106**; AU 9915610 A **AU 1999-15610 19981106**; EP 1028742 A1 **EP 1998-959859 19981106, WO 1998-EP7107 19981106**; JP 2001522809 W **WO 1998-EP7107 19981106, JP 2000-520142 19981106**; AU 756303 B **AU 1999-15610 19981106**; US 6670114 B1 **Cont of WO 1998-EP7107 19981106**, US 2000-564951 20000505
FDT AU 9915610 A Based on WO 9924054; EP 1028742 A1 Based on WO 9924054; JP 2001522809 W Based on WO 9924054; AU 756303 B Previous Publ. AU 9915610, Based on WO 9924054
PRAI **EP 1997-870178 19971106**
IC ICM A61K038-00; A61K038-17; C12Q001-70
ICS A61L002-00; A61P031-20; C07K001-22; **C07K014-18**; C07K014-47; C07K014-775; C12N007-00; G01N033-50; G01N033-53; G01N033-569; G01N033-576
ICA **A61K039-29**; A61L002-16
ICI **A61K039:29**
AB WO 9924054 A UPAB: 19990714
NOVELTY - Use of a human protein (I) chosen from annexin V, tubulin and

apolipoprotein B (or their functionally equivalent variants or fragments) in the preparation of a composition to treat an infection with **Hepatitis C** virus (**HCV**); a method to diagnose an infection with **HCV**; a method to purify **HCV** proteins; or a method for propagating **HCV** in cell culture, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) A composition comprising a **HCV E1** and/or E2 protein fragment, or a functionally equivalent variant, where the protein fragment contains binding domains for (I), and a carrier to treat an infection with **HCV**;

(2) A method for diagnosing exposure to, or infection by, **HCV**, comprising contacting **HCV** within a body fluid sample with (I) and determining the binding of the **HCV** with the protein;

(3) A method for purifying **HCV envelope** proteins, comprising contacting a composition containing **HCV envelope** proteins with (I) and isolating the portion of the composition which binds to (I);

(4) An assay kit for detecting the presence of **HCV**, comprising a solid support, (I), and appropriate markers which allow determination of complexes formed between **HCV** in a sample with (I);

(5) A method for propagating **HCV** in cell culture, comprising providing a cell that overexpresses (I), infecting the cell with **HCV** and culturing the infected cell;

(6) A method for reducing or eliminating the presence of **HCV** in plasma, serum or other biological liquid, comprising contacting the biological liquid with (I), and then separating the liquid form the protein;

(7) A method to determine anti-**HCV** antibodies in plasma, serum or other biological liquids, comprising allowing competitive biding between antibodies in the biological liquid and a known amount of **HCV envelope** protein for binding (I), and determining the amount of **HCV envelope** bound;

(8) A method to screen for molecules which modulate the binding between **HCV** and (I);

(9) A composition comprising a molecule which modulates the binding between **HCV** and (I);

In vitro infection method of eukaryotic cells for **HCV** characterized by using an enriched **HCV** particle;

(10) An isolated **E1** peptide defined by the 73, 20, or 135 amino acid sequence given in the specification, or any of their fragments, that binds to annexin V, tubulin and/or apolipoprotein B;

(11) An isolated **E1** peptide defined by the 36, 290, 55 amino acid sequence given in the specification, or any of their fragments, that binds to annexin V, tubulin and/or apolipoprotein B.

USE - The **HCV**-binding proteins and methods can be used to diagnose **HCV** infections and to develop reliable vaccines and therapeutic agents for **HCV**. The methods can be used to purify **HCV** proteins, to propagate **HCV** in cell culture, to screen for compounds which modulate the binding of **HCV** to the (I), and to reduce or eliminated **HCV** particles in body fluids such as blood and serum (all claimed).

ADVANTAGE - The methods can be used to reliably propagate **HCV** and infect eukaryotic cells with **HCV**, which allows comparative studies of drug action. This has not been consistently possible with the prior art.

FS CPI EPI GMPI
FA AB; DCN
MC CPI: B04-B04D4; B04-B04D5; B04-F11; B04-G08; B04-N02; B11-C07A; B12-K04A4;

B14-A01; D05-H08; D05-H09
EPI: S03-E14H; S03-E14H4
TECH UPTX: 19990714
TECHNOLOGY FOCUS - BIOLOGY - Preferred Protein: The human host protein binds to **HCV**, especially to the **envelope** proteins **E1** and/or E2. The host protein tubulin especially binds to amino acids **192-326** of **E1** or amino acids 384-673 of E2. The host protein annexin V especially binds to amino acids 307-**326** of **E1** or amino acids 413-467 of E2. The host protein apolipoprotein B especially binds to amino acids **192**-263 of **E1** or amino acids 288-**326** of **E1**.
Preferred Method: The enriched **HCV** particle fraction is obtained by ultra centrifugation of a solution containing **HCV** particles. The solution is a body fluid, and the eukaryotic cells are Daudi, Molt, HepG2 or any B-, T-, macrophage, hepatocyte or hepatoma cells. Additionally, the enriched **HCV** particle fraction is optionally characterized for the content of **E1** and/or E2 proteins, for the content of antibodies against **E1** and/or E2 proteins, the content of LDL, or for the content of apolipoprotein B. The method of (10) is used for screening for molecules which modulate the binding between **HCV** and eukaryotic cells, and for diagnosing exposure to or infection by **HCV** by enriching **HCV** particles, infecting host cells, and then determining the multiplicity of infection.
ABEX UPTX: 19990714
ADMINSTRATION - The proteins of the invention are given at a dose of 1 micrograms/kg to 10 mg/kg, preferably 10 micrograms/kg to 5 mg/kg, and most preferably between 0.1 and 2 mg/kg. Preferably, they are given as a bolus dose. However, continuous infusion may also be used, in which case the dosage is 5-20 micrograms/kg/minute, preferably 7-15 micrograms/kg/minute.

EXAMPLE - Total cell extracts were prepared form Daudi cells infected with **Hepatitis C** virus (**HCV**) using standard techniques. The cell debris was removed by centrifugation, and the cell extracts were affinity-adsorbed on **E1** and E2 affinity columns in order to capture **E1** and E2 binding proteins. Elution of bound proteins was performed as a three step elution. The first elution was performed at pH 11.5, the second at pH 2.5 and the third elution combined high pH (pH 11.5) and a strong detergent (1% Empigen). Only the last elution step resulted in the recovery of a single protein of 55 kDa binding of both **E1** and E2. The first two elution steps served as washing steps. A single extract from 109 cells was passed over an E2 column, and the column washed and eluted as above. The eluted fraction was analyzed on SDS- PAGE. Staining with Coomassie blue revealed a 55 kDa band (as well as a nonspecific biding protein of 70 kDa). The 55 kDa band was eluted from the SDS-PAGE gel, digested with trypsin, and the resulting peptides separated by HPLC. All peaks containing sequencable material resulted in the identification of either tubulin-alpha or tubulin-beta. Monoclonal antibodies against tubulin were used to confirm that the 55 kDa band on the SDS-PAGE gel was tubulin. Similar experiments were performed to identify annexin V as a **HCV**-binding protein.

L119 ANSWER 12 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1999-227194** [19] WPIX
TI Recombinant Adenovirus containing core of **hepatitis C** virus structural protein and **E1**, E2 gene of envelope glycoprotein - NoAbstract.
DC B04 D16
IN CHOI, S Y; LIM, D S; SEONG, Y R
PA (KOAD) KOREA ADV INST SCI & TECHNOLOGY

CYC 1
PI KR 98014794 A 19980525 (199919)* C12N015-51 <--
KR 421945 B 20040524 (200461) C12N015-51
ADT KR 98014794 A **KR 1996-33924 19960816**; KR 421945 B **KR 1996-33924 19960816**
FDT KR 421945 B Previous Publ. KR 98014794
PRAI **KR 1996-33924 19960816**
IC ICM C12N015-51
FS CPI
FA NOAB; GI
MC CPI: B04-F0100E; D05-H14A3

L119 ANSWER 13 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1999-141865** [12] WPIX
CR 1992-433657 [52]; 1999-394595 [33]
DNC **C1999-041301**
TI New isolated and purified **Hepatitis C** virus **E1** peptides - useful for vaccine production or diagnostic purposes.
DC B04 D16
IN BRECHOT, C; KREMSDORF, D; PORCHON, C
PA (INSP) INST PASTEUR
CYC 1
PI US 5866139 A 19990202 (199912)* 45 A61K038-04
ADT US 5866139 A **Div ex US 1993-965285 19930318, US 1995-483695 19950607**
PRAI **US 1993-965285 19930318; US 1995-483695 19950607**
IC ICM A61K038-04
ICS **A61K039-29**
AB US 5866139 A UPAB: 19990819
The following are claimed as new (where (**HCV E1**) is an isolate from a French **Hepatitis C** virus): (i) a **HCV E1** peptide that comprises the amino acid sequences (I), (II) or (III), where (I) is an **E1** peptide with a sequence of 166 amino acids, (II) is an E2/NS1 peptide with a sequence of 403 amino acids and (III) is an NS3/NS4 peptide with a sequence of 313 amino acids; (ii) a **HCV E1** peptide that has an amino acid sequence comprising: amino acids 49-78 and 58-66 of (I) or amino acids 123-133 of (II); and (iii) a **HCV E1** peptide comprising 7 amino acids of the sequence of (ii).
USE - The peptides can be: (i) conjugated to a carrier protein and used as immunogens for eliciting protective antibodies; or (ii) labelled, and used as immunoassay reagents for detecting antibodies specific for **HCV E1**.
Dwg.0/9
FS CPI
FA AB; DCN
MC CPI: B04-C01B; B04-C01C; B04-C01F; B04-F11; B04-G01; B04-N03A; B12-K04; B12-K04A4; D05-A01A4; D05-H07; D05-H10; D05-H17A6

L119 ANSWER 14 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1999-034724** [03] WPIX
DNN **N1999-025957** DNC **C1999-010479**
TI Methods for isolating truncated **HCV E1** and E2 polypeptides - used in, e.g. immunodiagnostic kits for diagnosis of **HCV** infection.
DC B04 D16 S03
IN ABRIGNANI, S; CHIEN, D; CHOO, Q; GLAZER, E; HOUGTON, M; SELBY, M; HOUGHTON, M
PA (CHIR) CHIRON CORP; (ABRI-I) ABRIGNANI S; (CHIE-I) CHIEN D; (CHOO-I) CHOO

Q; (GLAZ-I) GLAZER E; (HOUG-I) HOUGHTON M; (SELB-I) SELBY M

CYC 83

PI WO 9850556 A2 19981112 (199903)* EN 65 C12N015-40 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
AU 9874716 A 19981127 (199915) C12N015-40 <--
EP 980434 A1 20000223 (200015) EN C12N015-40
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2002504810 W 20020212 (200215) 56 C12N015-09
US 6521423 B1 20030218 (200317) C12P021-00
US 2004001854 A1 20040101 (200402) A61K039-29 <--

ADT WO 9850556 A2 **WO 1998-US9097 19980506**; AU 9874716 A **AU 1998-74716 19980506**; EP 980434 A1 **EP 1998-922096 19980506, WO 1998-US9097 19980506**; JP 2002504810 W **JP 1998-548360 19980506, WO 1998-US9097 19980506**; US 6521423 B1 **Provisional US 1997-45675P 19970506, Cont of US 1998-73406 19980506**, US 2000-693596 20001019; US 2004001854 A1 **Provisional US 1997-45675P 19970506, Cont of US 1998-73406 19980506**, Cont of US 2000-693596 20001019, US 2003-371040 20030218

FDT AU 9874716 A Based on WO 9850556; EP 980434 A1 Based on WO 9850556; JP 2002504810 W Based on WO 9850556; US 2004001854 A1 Cont of US 6521423

PRAI **US 1997-45675P 19970506; US 1998-73406 19980506**; US 2000-693596 20001019; US 2003-371040 20030218

IC ICM **A61K039-29**; C12N015-09; C12N015-40; C12P021-00
ICS A61P031-14; C07K001-22; C07K014-02; **C07K014-18**; C12N007-02; C12N015-08; C12P021-02; C12Q001-70; G01N033-50; G01N033-52; G01N033-576

AB WO 9850556 A UPAB: 19990310
A novel method for isolating **hepatitis C** virus (**HCV**) **E1** polypeptide that lacks a portion of its C-terminus beginning at about amino acid 370 but not extending beyond about amino acid 300, numbered with reference to the HCV1 **E1** amino acid sequence, comprises: (a) providing a population of host cells transformed with a polynucleotide comprising a coding sequence for the **HCV E1** polypeptide, where the coding sequence is operably linked to control elements such that the coding sequence can be transcribed and translated in the host cell; (b) culturing the population of cells under conditions where the **HCV E1** polypeptide is expressed intracellularly; (c) disrupting the host cells, and (d) isolating the **HCV E1** polypeptide from the disrupted cells. Also claimed are: (1) an identical method for isolating a **HCV** E2 polypeptide that lacks a portion of its C-terminus beginning at about amino acid 730 but not extending beyond amino acid 500, numbered with reference to the HCV1 E2 amino acid sequence; (2) an **HCV E1** or **HCV** E2 polypeptide produced by the above methods; (3) a composition comprising a pharmaceutically acceptable excipient and an **HCV E1** or **HCV** E2 polypeptide of (2), and (4) a method of preparing a composition comprising combining a **HCV E1** or **HCV** E2 polypeptide of (2) with a pharmaceutically acceptable excipient.

USE - The **HCV E1** and **HCV** E2 polypeptides of (2) can be used to manufacture a medicament useful for detecting the presence or absence of **HCV** infection in an individual. They can also be used in a immunodiagnostic test kit for detecting **HCV** infection (all claimed).

Dwg.0/5
FS CPI EPI
FA AB
MC CPI: B04-N04; B11-B; D05-H09
EPI: S03-E14H

L119 ANSWER 15 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1998-495550** [42] WPIX
DNC **C1998-149244**
TI Composition for immunotherapy of **hepatitis C** virus infection - comprises viral capsid and envelope polypeptides, optionally as fusion, unable to regulate genes or corresponding DNA.
DC B04 D16
IN BARBAN, V
PA (INMR) PASTEUR MERIEUX SERUMS & VACCINS SA; (AVET) AVENTIS PASTEUR
CYC 23
PI WO 9839030 A1 19980911 (199842)* FR 31 A61K039-29 <--
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP US
FR 2760367 A1 19980911 (199842) A61K039-29 <--
AU 9868398 A 19980922 (199908) A61K039-29 <--
EP 1017418 A1 20000712 (200036) FR A61K039-29 <--
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
NZ 337138 A 20010427 (200128) C07K014-18 <--
US 6284249 B1 20010904 (200154) A61K039-00
JP 2001513807 W 20010904 (200165) 29 A61K039-29 <--
US 2002034734 A1 20020321 (200224) C07H021-04
AU 745442 B 20020321 (200233) A61K039-29 <--
US 6538123 B2 20030325 (200325) C07H021-04
ADT WO 9839030 A1 **WO 1998-FR448 19980306**; FR 2760367 A1 **FR 1997-2887 19970306**; AU 9868398 A **AU 1998-68398 19980306**; EP 1017418 A1 **EP 1998-913848 19980306, WO 1998-FR448 19980306**; NZ 337138 A **NZ 1998-337138 19980306, WO 1998-FR448 19980306**; US 6284249 B1 **CIP of WO 1998-FR448 19980306**, US 1999-388874 19990902; JP 2001513807 W **JP 1998-538243 19980306, WO 1998-FR448 19980306**; US 2002034734 A1 **CIP of WO 1998-FR448 19980306**, Div ex US 1999-388874 19990902, US 2001-916359 20010726; AU 745442 B **AU 1998-68398 19980306**; US 6538123 B2 **CIP of WO 1998-FR448 19980306**, Div ex US 1999-388874 19990902, US 2001-916359 20010726
FDT AU 9868398 A Based on WO 9839030; EP 1017418 A1 Based on WO 9839030; NZ 337138 A Based on WO 9839030; JP 2001513807 W Based on WO 9839030; US 2002034734 A1 Div ex US 6284249; AU 745442 B Previous Publ. AU 9868398, Based on WO 9839030; US 6538123 B2 Div ex US 6284249
PRAI **FR 1997-2887 19970306**
IC ICM A61K039-00; **A61K039-29**; C07H021-04; **C07K014-18**
ICS A01N025-00; A61K031-711; A61K038-00; A61K039-12; A61P001-16; A61P031-14; A61P035-00; A61P037-04; C07K001-00; C07K002-00; C07K004-00; C07K005-00; C07K007-00; C07K014-00; C07K016-00; **C07K017-00**; C12N001-20; C12N005-00; C12N005-02; C12N007-04; C12N013-00; C12N015-00; C12N015-09; C12N015-63; C12N015-70; C12N015-74; C12P019-34; C12P021-06; C12Q001-70
AB WO 9839030 A UPAB: 19981125
Composition comprises: (i) a polypeptide (I) containing (ia) all or part of a capsid polypeptide (**C**) of **hepatitis C** virus (**HCV**) and (ib) all or part of the envelope polypeptide (**E1**) of **HCV**, with (I), or its cleavage products, being unable to regulate one or more genes; (ii) an equimolar mixture of (C) and (**E1**) as defined in (i); or (iii) DNA encoding (I), under control of elements that allow it to be expressed in mammalian cells.

USE - The compositions are used for immunotherapy (treatment or prevention) of **HCV** infections, or disease such as liver cirrhosis and carcinoma that develop from these infections. Administration is by injection. No dosage given.

ADVANTAGE - Fusion of (C), a good candidate for anti-**HCV** vaccines, with (**E1**) prevents movement of (C) to the nucleus, where it might activate genes, including (proto)oncogenes, keeping it instead in the endoplasmic reticulum.

Dwg.0/3

FS CPI
FA AB
MC CPI: B04-C01; B04-E03F; B04-N03; B14-H01; B14-N12; D05-H07; D05-H12C; D05-H17C

L119 ANSWER 16 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1998-297941** [26] WPIX
DNN **N1998-233022** DNC **C1998-092986**
TI Producing virus-like particles in vitro useful for e.g. immunisation - especially **hepatitis C** virus-like particles for diagnosis of **hepatitis C** and prevention and therapy e.g. by vaccine production.
DC B04 D16 S03
IN BAUMERT, T F; LIANG, T J
PA (USSH) US SEC DEPT HEALTH; (USSH) US DEPT HEALTH & HUMAN SERVICES
CYC 76
PI WO 9821338 A1 19980522 (199826)* EN 31 C12N015-40 <--
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
AU 9723479 A 19980603 (199842) C12N015-40 <--
EP 941337 A1 19990915 (199942) EN C12N015-40
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2001504337 W 20010403 (200126) 42 C12N015-09
AU 738585 B 20010920 (200164) C12N015-40
US 6387662 B1 20020514 (200239) C12N015-09
ADT WO 9821338 A1 **WO 1997-US5096 19970325**; AU 9723479 A **AU 1997-23479 19970325**; EP 941337 A1 **EP 1997-916252 19970325, WO 1997-US5096 19970325**; JP 2001504337 W **WO 1997-US5096 19970325, JP 1998-522521 19970325**; AU 738585 B **AU 1997-23479 19970325**; US 6387662 B1 **Provisional US 1996-30238P 19961108, Cont of WO 1997-US5096 19970325**, US 1999-296441 19990421
FDT AU 9723479 A Based on WO 9821338; EP 941337 A1 Based on WO 9821338; JP 2001504337 W Based on WO 9821338; AU 738585 B Previous Publ. AU 9723479, Based on WO 9821338
PRAI **US 1996-30238P 19961108**; US 1999-296441 19990421
IC ICM C12N015-09; C12N015-40
ICS **A61K039-29**; A61P031-14; **C07K014-18**; C07K016-10; C12N005-10; C12P021-02; G01N033-569; G01N033-576
AB WO 9821338 A UPAB: 19980701
A novel method of producing virus-like particles (VLPs) in vitro comprises: (a) providing a vector comprising an expression system which can produce proteins in insect cells; (b) cloning cDNA coding for structural proteins of an enveloped RNA virus into vector to allow expression in transfected/infected insect cells; (c) transfecting/infecting insect cells with vector; (d) maintaining cells in culture for sufficient time to allow cDNA expression to produce structural

proteins of an enveloped RNA virus; (e) allowing structural proteins to form intracellular VLPs; and (f) optionally purifying VLPs from cells.

Also claimed are: (1) **hepatitis C** virus (**HCV**)-like particles produced using the above method; (2) antibodies (especially monoclonal) produced by immunising animals with (1); (3) constructs comprising the vector of (a) plus cDNA comprising 5' untranslated region and sequences coding for **HCV** core protein, **HCV envelope 1** (**E1**) protein, **HCV envelope** 2 (E2) protein and p7 protein (constructs optionally also comprise sequence coding for at least part of **HCV** NS2 protein); (4) an insect cell transfected/infected with (3); and (5) recombinant **HCV** proteins comprising **HCV** core, **E1**, E2 and p7 proteins that assemble into intracellular **HCV**-like particles in insect cells.

USE - Purified VLPs can be introduced with a pharmaceutically acceptable carrier to generate an immune response in mammals (especially humans, mice etc.) (claimed), useful in prevention or therapy for viral infections. They are useful for diagnosing viral infections, particularly for testing human body fluids to prevent the spread of viral disease through infected fluids. Large quantities of VLPs for enveloped RNA viruses (e.g. members of the Sinbis-like or Flavivirus-like superfamilies e.g. yellow fever virus) can be produced, and the method is especially useful for producing **HCV** virus-like (**HCV**-like) particles. These, or proteins produced from them, are useful in diagnosis; kits for detecting **HCV** infection containing **HCV**-like particles and a means for detecting antibodies binding to the **HCV**-like particles are provided (claimed). They can also be included (especially when 40-60 nm diameter and/or with density 1.14-1.18 g/cm3) in compositions with a pharmaceutically accept able carrier useful as vaccines or therapeutic agents (claimed); currently no effective vaccine to prevent **HCV** infection or treatment for chronic **HCV** infection exists. They may also be used to develop new methods of **HCV** prevention/treatment.

ADVANTAGE - **HCV**-like particles were morphologically and biophysically similar to reported **HCV** virions from infected humans, and are effective immunogens for vaccine development, unlike prior art soluble proteins/peptides which may lack structural epitopes.

Dwg.0/3

FS CPI EPI
FA AB
MC CPI: B04-E08; B04-F0700E; B04-F1100E; B04-G08; B04-G21; B04-N0300E; B12-K04A4; B14-S11A; D05-H07; D05-H09; D05-H11; D05-H12F; D05-H14B1; D05-H17A6
EPI: S03-E14H4

L119 ANSWER 17 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1996-139709** [14] WPIX
CR 1995-061006 [08]
DNN **N1996-116994** DNC **C1996-043961**
TI DNA and amino acid sequence of **HCV envelope 1** and core proteins - used to determine **HCV** genotype and as vaccines against **HCV** infection.
DC B04 D16 S03
IN BUKH, J; MILLER, R H; PURCELL, R H
PA (USSH) US DEPT HEALTH & HUMAN SERVICES; (USSH) US SEC DEPT HEALTH
CYC 65
PI WO 9605315 A2 19960222 (199614)* EN 340 C12N015-51 <--
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE

SG SI SK TJ TM TT UA UG UZ VN

AU 9534065	A	19960307 (199624)		C12N015-51	<--
WO 9605315	A3	19960404 (199630)		C12N015-51	<--
EP 779924	A1	19970625 (199730)	EN	C12N015-51	<--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
US 5882852	A	19990316 (199918)		C12Q001-70	
AU 712385	B	19991104 (200003)		C12N015-51	
EP 779924	B1	20051109 (200574)	EN	C12N015-51	
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
DE 69534600	E	20051215 (200582)		C12N015-51	

ADT WO 9605315 A2 **WO 1995-US10398 19950815**; AU 9534065 A **AU 1995-34065 19950815**; WO 9605315 A3 **WO 1995-US10398 19950815** ; EP 779924 A1 **EP 1995-930831 19950815, WO 1995-US10398 19950815**; US 5882852 A **CIP of US 1993-86428 19930629, US 1994-290665 19940815**; AU 712385 B **AU 1995-34065 19950815**; EP 779924 B1 **EP 1995-930831 19950815, WO 1995-US10398 19950815**; DE 69534600 E **DE 1995-634600 19950815 , EP 1995-930831 19950815, WO 1995-US10398 19950815**

FDT AU 9534065 A Based on WO 9605315; EP 779924 A1 Based on WO 9605315; US 5882852 A CIP of US 5514539; AU 712385 B Previous Publ. AU 9534065, Based on WO 9605315; EP 779924 B1 Based on WO 9605315; DE 69534600 E Based on EP 779924, Based on WO 9605315

PRAI **US 1994-290665 19940815; US 1993-86428 19930629**

REP 13Jnl.Ref; EP 586065; WO 9219743; WO 9221759; WO 9401778; WO 9425601; WO 9427153; WO 9501442

IC ICM C12N015-51; C12Q001-70
ICS **A61K039-29**; C07H021-04; **C07K014-18**; C07K016-10; C12N015-00; C12P019-34; C12Q001-68; G01N033-569

AB WO 9605315 A UPAB: 20051222
The following are new: (i) purified and isolated DNA (I) having one of the 51 576 bp sequences given in the specification; (ii) purified and isolated protein (A) encoded by a gene, having one of the 51 192 residue amino acids sequences given in the specification; (iii) purified and isolated DNA (II) having one of the 51 573 bp sequences given in the specification; and (iv) purified and isolated protein (B) encoded by a gene, having one of the 51 191 residue amino acids sequences given in the specification.
USE - (A) and (B) may be used to detect antibodies against **HCV** in serum, saliva, lymphocytes or other mononuclear cells. The primers may be used to determine **HCV** genotype and the antibodies may be used in the prevention of **HCV** infection (claimed).
Alignment of the sequences, (A), showed a grouping of **HCV** isolates into 12 genotypes, I/1a, II/1b, III/2a, IV/2b, 2c, V/3a, 4a, 4b, 4c, 4d, 5a and 6a. The alignment of sequences (B) showed a grouping of **HCV** isolates into 14 genotypes, which are the same as above and additionally include 4e and 4f.
Dwg.0/8

FS CPI EPI

FA AB

MC CPI: B04-C01G; B04-E02F; B04-E03F; B04-E05; B04-F11; B04-G01; B04-L04A; B04-N03A; B11-C08E3; B12-K04A4; B14-S11A; D05-H06; D05-H07; D05-H11A; D05-H12A; D05-H12D1; D05-H14; D05-H17A5
EPI: S03-E14H4

L119 ANSWER 18 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

AN 1996-129401 [13] WPIX

CR 2000-147201 [13]; 2001-316323 [33]; 2002-599657 [64]

DNN N1996-108730 DNC C1996-040400

TI Purifying recombinant **hepatitis C** virus (**HCV**) **E1** and E2 **envelope** proteins - in presence of di

sulphide bond cleavage agent, to produce proteins suitable for direct use in vaccines or diagnostic assays of **HCV**.

DC B04 D16 S03

IN **BOSMAN, F; BUYSE, M;** DE MARTYNOFF, G; **MAERTENS, G; BUYSE, M A;** BOSMAN, A; DEPLA, E

PA (INNO-N) **INNOGENETICS NV;** (INNO-N) **INNOGENETICS NV SA;** (BOSM-I) BOSMAN F; (BUYS-I) BUYSE M; (MAER-I) MAERTENS G

CYC 64

PI	WO 9604385	A2	19960215 (199613)*	EN	146	C12N015-40	<--
	RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG						
	W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TT UA UG US UZ VN						
	AU 9533824	A	19960304 (199623)				<--
	WO 9604385	A3	19960307 (199630)				<--
	EP 721505	A1	19960717 (199633)	EN			<--
	R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE						
	JP 09503396	W	19970408 (199724)		161	C12P021-00	<--
	BR 9506059	A	19971028 (199750)				<--
	AU 708174	B	19990729 (199941)				
	AU 9957127	A	20000217 (200019)#			C07K014-18	<--
	SG 71728	A1	20000418 (200027)			C12N015-51	
	US 6150134	A	20001121 (200101)			C12N015-09	
	US 6245503	B1	20010612 (200135)			C12Q001-70	
	EP 721505	B1	20020508 (200231)	EN		C12N015-40	
	R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE						
	EP 1211315	A1	20020605 (200238)	EN		C12N015-40	
	R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE						
	DE 69526636	E	20020613 (200246)			C12N015-40	
	US 2002182706	A1	20021205 (200301)			C12N007-02	
	ES 2174957	T3	20021116 (200302)			C12N015-40	
	US 2003036110	A1	20030220 (200316)			C12P021-02	
	AU 757962	B	20030313 (200328)#			C07K014-18	<--
	US 2003095980	A1	20030522 (200336)			A61K039-12	
	JP 2004222729	A	20040812 (200453)		80	C12N015-09	
	US 2004185061	A1	20040923 (200463)			C12Q001-70	
	US 6890737	B1	20050510 (200532)			C12P021-06	

ADT WO 9604385 A2 **WO 1995-EP3031 19950731;** AU 9533824 A **AU 1995-33824 19950731;** EP 721505 A1 **EP 1995-930434 19950731, WO 1995-EP3031 19950731;** JP 09503396 W **WO 1995-EP3031 19950731, JP 1996-506189 19950731;** BR 9506059 A **BR 1995-6059 19950731, WO 1995-EP3031 19950731;** AU 708174 B **AU 1995-33824 19950731;** AU 9957127 A **Div ex AU 1995-33824 19950731,** AU 1999-57127 19991029; SG 71728 A1 **SG 1997-3877 19950731;** US 6150134 A **WO 1995-EP3031 19950731, US 1996-612973 19960311;** US 6245503 B1 **Div ex US 1996-612973 19960311, US 1997-927597 19970911;** EP 721505 B1 **EP 1995-930434 19950731, WO 1995-EP3031 19950731, Related to EP 2002-3643 19950731;** EP 1211315 A1 **Div ex EP 1995-930434 19950731, EP 2002-3643 19950731;** DE 69526636 E **DE 1995-626636 19950731, EP 1995-930434 19950731, WO 1995-EP3031 19950731;** US 2002182706 A1 **Div ex WO 1995-EP3031 19950731, Div ex US 1996-612973 19960311, Cont of US 1997-928017 19970911,** US 2001-973025 20011010; ES 2174957 T3 **EP 1995-930434 19950731;** US 2003036110 A1 **Div ex US 1996-612973 19960311, Div ex US 1997-928017 19970911,** US 2001-899303 20010706; AU 757962 B **Div ex AU 1995-33824 19950731,** AU 1999-57127 19991029; US 2003095980 A1 **Div ex WO 1995-EP3031 19950731, Div ex US 1996-612973 19960311, CIP of US 1997-928017 19970911,** Div ex WO 1999-EP4342 19990623, Div ex US

1999-355040 19990723, Provisional US 2000-304194P 20001201, Provisional US 2001-260669P 20010111, Provisional US 2001-315768P 20010830, US 2001-995808 20011129; JP 2004222729 A **Div ex JP 1996-506189 19950731**, JP 2004-51709 20040226; US 2004185061 A1 **Div ex WO 1995-EP3031 19950731, Div ex US 1996-612973 19960311, Cont of US 1997-928017 19970911**, Cont of US 1999-795289 19991207, CIP of US 2001-973025 20011010, US 2004-825219 20040416; US 6890737 B1 **Div ex US 1996-612973 19960311, US 1997-928757 19970912**

FDT AU 9533824 A Based on WO 9604385; EP 721505 A1 Based on WO 9604385; JP 09503396 W Based on WO 9604385; BR 9506059 A Based on WO 9604385; AU 708174 B Previous Publ. AU 9533824, Based on WO 9604385; AU 9957127 A Div ex AU 708174; US 6150134 A Based on WO 9604385; EP 721505 B1 Based on WO 9604385; EP 1211315 A1 Div ex EP 721505; DE 69526636 E Based on EP 721505, Based on WO 9604385; US 2002182706 A1 Div ex US 6150134; ES 2174957 T3 Based on EP 721505; US 2003036110 A1 Div ex US 6150134; AU 757962 B Div ex AU 708174, Previous Publ. AU 9957127; US 2003095980 A1 Div ex US 6150134; US 2004185061 A1 Div ex US 6150134

PRAI **EP 1994-870132 19940729**; AU 1999-57127 19991029; **EP 1998-870142 19980624**; EP 1999-870033 19990222; EP 1999-870225 19991027

REP WO 9208734; WO 9302103; WO 9304205; WO 9315193

IC ICM A61K039-12; **C07K014-18**; C12N007-02; C12N015-09; C12N015-40; C12N015-51; C12P021-00; C12P021-02; C12P021-06; C12Q001-70

ICS A61K038-00; A61K038-16; A61K039-00; **A61K039-29**; A61K039-395; A61P001-16; A61P031-12; C07K001-00; C07K014-01; C07K014-02; C07K016-10; C12N001-15; C12N001-18; C12N001-19; C12N001-21; C12N005-10; C12N015-02; C12P021-08; G01N033-53; G01N033-569; G01N033-576; G01N033-577

ICI C12N001-19, C12R001:865; C12P021-02, C12R001:91; C12P021-02, C12R001:865; C12Q001-70, C12R001:92

AB WO 9604385 A UPAB: 20050520

Novel method for purifying recombinant **HCV** single or specific oligomeric **envelope** proteins selected from **E1** and E2, and/or **E1**/E2, is characterised in that upon lysing transformed host cells to isolate the recombinantly expressed protein a disulphide bond cleavage or reduction step is carried out with a disulphide bond cleavage agent. Also claimed are: (**1**) compsn. comprising essentially purified recombinant **HCV** single or specific oligomeric **envelope** proteins selected from **E1** and E2, and/or **E1**/E2, isolated using the above method; (2) **E1** and E2 specific mAb raised upon immunisation with any of the above compsns., etc.

USE - The compsns. of purified **HCV envelope** proteins can be used for vaccinating humans against **HCV**, for in vitro detection of **HCV** antibodies in a biological sample, in a serotyping assay for detecting one or more serological types of **HCV** present in a biological sample and can be immobilised on a solid substrate and incorporated into a reversed phase hybridisation assay (pref. for immobilisation on parallel lines onto a solid support, e.g. a membrane strip) for determining the presence or the genotype of **HCV** (all claimed). The mAb can be used in an immunoassay, e.g. an ELISA, (kit provided) for detecting **HCV E1** or E2 antigens, useful for monitoring/prognosing chronic hepatitis.

ADVANTAGE - The new purification method preserves the conformation of recombinantly expressed **E1**, E2 and **E1**/E2 and eliminates contaminating proteins. The antigens isolated in this way are more reactive with human sera than those isolated by known techniques. For example, E2 protein purified by the new method reacts with 95% of patient sera (compared to 14-17 % for E2 expressed in E.coli); about 75 % of **HCV** sera are anti-**E1** positive using vaccinia-expressed

protein purified by the novel method (compared to previously published levels of 7-23 %).
Dwg.0/46
FS CPI EPI
FA AB
MC CPI: B04-E01; B04-E08; B04-F0100E; B04-F11; B04-G01; B04-N02; B11-B; B12-K04A; B14-N12; B14-S11A; D05-A01A4; D05-A01B; D05-H06; D05-H07; D05-H10; D05-H13; D05-H17A5
EPI: S03-E14H4

L119 ANSWER 19 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1996-129331** [13] WPIX
CR 2006-012994 [02]
DNC **C1996-040330**
TI Secretable **hepatitis C** virus **E1** and E2 polypeptide(s) lacking all/part of the membrane spanning domain - useful in vaccines, and for diagnostic and therapeutic purposes, e.g. in assays for **HCV**.
DC B04 D16
IN HOUGHTON, M; SELBY, M
PA (CHIR) CHIRON CORP
CYC 63
PI WO 9604301 A2 19960215 (199613)* EN 46 C07K014-18 <--
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SI SK TJ TT UA UZ VN
AU 9532410 A 19960304 (199623) C07K014-18 <--
ZA 9506318 A 19960529 (199628) 60 C12N000-00 <--
WO 9604301 A3 19960328 (199630) C07K014-18 <--
EP 773957 A1 19970521 (199725) EN C07K014-18 <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
MX 9700677 A1 19970401 (199821) C12N015-51 <--
US 6121020 A 20000919 (200048) C12N015-09
US 6326171 B1 20011204 (200203) C12N015-09
JP 2002515005 W 20020521 (200236) 56 C07K014-18 <--
EP 1510580 A2 20050302 (200517) EN C12N015-51
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP 773957 B1 20050629 (200543) EN C07K014-18 <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69534296 E 20050818 (200557) C07K014-18 <--
JP 2005290010 A 20051020 (200569) 31 C07K014-18 <--
ES 2244965 T3 20051216 (200604) C07K014-18 <--
ADT WO 9604301 A2 **WO 1995-US10035 19950726**; AU 9532410 A **AU 1995-32410 19950726**; ZA 9506318 A **ZA 1995-6318 19950728**; WO 9604301 A3 **WO 1995-US10035 19950726**; EP 773957 A1 **EP 1995-928779 19950726, WO 1995-US10035 19950726**; MX 9700677 A1 **MX 1997-677 19970127**; US 6121020 A **Cont of US 1994-282959 19940729, US 1997-824057 19970324**; US 6326171 B1 **CIP of US 1994-282959 19940729, Cont of US 1995-506608 19950725**, US 1999-415582 19991008; JP 2002515005 W **WO 1995-US10035 19950726, JP 1996-506814 19950726**; EP 1510580 A2 **Div ex EP 1995-928779 19950726, EP 2004-77562 19950726**; EP 773957 B1 **EP 1995-928779 19950726, WO 1995-US10035 19950726**, Related to EP 2004-77562 20040916; DE 69534296 E **DE 1995-634296 19950726, EP 1995-928779 19950726, WO 1995-US10035 19950726**; JP 2005290010 A **Div ex JP 1996-506814 19950726**, JP 2005-140416 20050512; ES 2244965 T3 **EP 1995-928779 19950726**
FDT AU 9532410 A Based on WO 9604301; EP 773957 A1 Based on WO 9604301; JP

2002515005 W Based on WO 9604301; EP 1510580 A2 Div ex EP 773957; EP 773957 B1 Related to EP 1510580, Based on WO 9604301; DE 69534296 E Based on EP 773957, Based on WO 9604301; ES 2244965 T3 Based on EP 773957

PRAI **US 1995-506608 19950725; US 1994-282959 19940729; US 1997-824057 19970324**; US 1999-415582 19991008

REP 8.Jnl.Ref

IC ICM **C07K014-18**; C12N000-00; C12N015-09; C12N015-51
ICS A61K039-00; **A61K039-29**; A61P001-16; A61P031-14; C12N005-10; C12N007-00; C12N015-74; C12N015-86; C12P021-02; C12Q001-70

AB WO 9604301 A UPAB: 20060116
Hepatitis C virus (**HCV**) **E1** and E2 polypeptides lacking all/part of their membrane spanning domains such that the polypeptides can be secreted into the growth medium when expressed recombinantly in a host cell, are new.
USE - The truncation of the **E1** and E2 polypeptides facilitates purificn. of each of the polypeptides without association with the other. The polypeptides and complex are useful in vaccines, and for diagnostic and therapeutic purposes, e.g. in assays for the diagnosis of **HCV**.
Dwg.0/7

FS CPI

FA AB

MC CPI: B04-E01; B04-E08; B04-F0100E; B12-K04A4; B14-N12; B14-S11A; D05-H06; D05-H07; D05-H12B2; D05-H12E; D05-H14; D05-H17B6

L119 ANSWER 20 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

AN **1996-030564** [03] WPIX

CR 1989-159274 [22]; 1989-215054 [30]; 1990-284418 [38]; 1990-350477 [47]; 1991-059670 [09]; 1991-297685 [41]; 1992-080094 [10]; 1992-200135 [24]; 1996-117956 [13]; 1997-525681 [48]; 1997-548976 [50]; 1998-119973 [11]; 1999-590406 [50]; 2000-566891 [53]; 2002-040268 [05]; 2004-193149 [19]

DNN **N1996-025789** DNC **C1996-010539**

TI **Hepatitis C** virus asialo-glyco protein(s) - useful in vaccines and immunoassays.

DC B04 D16 S03

IN BERGER, K M; CHOO, Q; GERVASE, B A; HALL, J A; HOUGHTON, M; KUO, G; MARCUS, F; RALSTON, R O; THUDIUM, K B; CHOO, O

PA (BERG-I) BERGER K M; (CHOO-I) CHOO Q; (GERV-I) GERVASE B A; (HALL-I) HALL J A; (HOUG-I) HOUGHTON M; (KUOG-I) KUO G; (MARC-I) MARCUS F; (RALS-I) RALSTON R O; (THUD-I) THUDIUM K B; (CHIR) CHIRON CORP

CYC 43

PI

WO 9533053	A1	19951207 (199603)*	EN	35	C12N015-51	<--
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE						
W: AU BG BR CA CN CZ EE FI GE HU JP KR LT LV MX NO NZ PL RO RU SI SK UA UZ VN						
AU 9525509	A	19951221 (199612)				<--
EP 760855	A1	19970312 (199715)	EN			<--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE						
JP 10501130	W	19980203 (199815)		37	C12P021-02	<--
US 5942234	A	19990824 (199941)			A61K039-29	<--
US 6074846	A	20000613 (200035)			C12P021-02	
US 6074852	A	20000613 (200035)			C12Q001-70	
US 6274148	B1	20010814 (200148)			A61K039-29	<--
US 2002004048	A1	20020110 (200208)			A61K039-29	<--
US 2005089843	A1	20050428 (200530)			C12Q001-70	

ADT WO 9533053 A1 **WO 1995-US6072 19950515**; AU 9525509 A **AU 1995-25509 19950515**; EP 760855 A1 **EP 1995-919838 19950515, WO 1995-US6072 19950515**; JP 10501130 W **WO 1995-US6072 19950515, JP 1996-500912 19950515**; US 5942234 A **CIP of**

US 1990-611419 19901108, CIP of US 1991-758880 19910913, Div ex US 1994-249843 19940526, US 1995-443260 19950517; US 6074846 A **CIP of US 1990-611419 19901108, CIP of US 1991-758880 19910913, Div ex US 1994-249843 19940526, US 1995-442805 19950517;** US 6074852 A **CIP of US 1990-611419 19901108, CIP of US 1991-758880 19910913, Div ex US 1994-249843 19940526, US 1995-443900 19950517;** US 6274148 B1 **CIP of US 1990-611419 19901108, CIP of US 1991-758880 19910913, US 1994-249843 19940526;** US 2002004048 A1 **CIP of US 1990-611419 19901108, CIP of US 1991-758880 19910913, Cont of US 1994-249843 19940526,** US 2001-929782 20010813; US 2005089843 A1 **CIP of US 1990-611419 19901108, CIP of US 1991-758880 19910913, Cont of US 1994-249843 19940526,** Cont of US 2001-929782 20010813, US 2004-964054 20041012

FDT AU 9525509 A Based on WO 9533053; EP 760855 A1 Based on WO 9533053; JP 10501130 W Based on WO 9533053; US 2002004048 A1 Cont of US 6274148; US 2005089843 A1 Cont of US 6274148

PRAI **US 1994-249843 19940526; US 1990-611419 19901108; US 1991-758880 19910913; US 1995-443260 19950517; US 1995-442805 19950517; US 1995-443900 19950517;** US 2001-929782 20010813; US 2004-964054 20041012

REP WO 9208734

IC ICM **A61K039-29;** C12N015-51; C12P021-02; C12Q001-70
ICS A61K035-16; A61K038-00; C07H021-04; C07K001-00; C07K001-16; C07K014-02; **C07K014-18;** C12N001-19; C12N005-10; C12N015-86; C12P021-04; C12P021-62; G01N033-569; G01N033-576

ICA C12N015-09

AB WO 9533053 A UPAB: 20050512
Isolated **hepatitis C** virus (**HCV**) asialoglycoproteins **E1** and E2 are new. Also claimed are: (1) a cell transformed with a vector for recombinant expression of a **HCV** asialoglycoprotein, where the vector comprises a structural gene encoding a glycosylation signal, an **HCV** asialoglycoprotein, a regulatory sequence operable in the host cell and capable of regulating expression of the **HCV** asialoglycoprotein, and a selectable marker; where the cell does not sialylate glycoproteins; (2) production of **HCV** asialoglycoproteins suitable for use in a vaccine or immunoassay, comprising: (a) growing a lower eukaryote or mammalian host cell, with a structural gene encoding an **HCV** asialoglycoprotein as above, in a suitable culture medium; (b) causing expression of the structural gene; and (c) recovering the **HCV** asialoglycoprotein from the cell culture; etc.

USE - The **HCV** asialoglycoproteins for use in vaccines or immunoassays can be prepared recombinantly or purified from biological samples.

ADVANTAGE - Recombinant expression of **HCV** asialoglycoproteins in lower eukaryotes or in mammalian cells in which terminal glycosylation is blocked, results in recombinant proteins which are more similar to native **HCV** glycoproteins.

Dwg.0/0

FS CPI EPI

FA AB

MC CPI: B04-E01; B04-E08; B04-N02; B12-K04; D05-H06; D05-H07; D05-H10; D05-H14A2; D05-H14B2; D05-H17A5
EPI: S03-E14H4

L119 ANSWER 21 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

AN 1995-193822 [25] WPIX

DNC C1995-089667

TI **Hepatitis C** Virus immunogenic polypeptide containing a T-cell stimulating epitope - from core, **E1**, E2 and NS3 regions, useful in production of vaccines, therapeutic agents, etc..

DC B04 D16

IN DELEYS, R; LEROUX-ROELS, G; **MAERTENS, G**; DE LEYS, R

PA (INNO-N) **INNOGENETICS NV**; (INNO-N) **INNOGENETICS NV SA**; (INNO-N) **INNOGENETICS**

CYC 60

PI WO 9512677 A2 19950511 (199525)* EN 103 C12N015-40 <--
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA US UZ VN
AU 9479932 A 19950523 (199535) C12N015-40 <--
WO 9512677 A3 19950727 (199619) C12N015-40 <--
EP 725824 A1 19960814 (199637) EN C12N015-40 <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 09504534 W 19970506 (199728) 118 C07K014-18 <--
AU 698878 B 19981112 (199906)# C12N015-40 <--
EP 979867 A2 20000216 (200014) EN C12N015-09
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP 992580 A2 20000412 (200023) EN C12N015-09
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP 992581 A2 20000412 (200023) EN C12N015-09
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP 725824 B1 20030409 (200325) EN C12N015-40
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
US 6555114 B1 20030429 (200331) A61K039-29 <--
DE 69432475 E 20030515 (200340) C12N015-40
US 6613333 B1 20030902 (200359) A61K039-29 <--
ES 2197170 T3 20040101 (200412) C12N015-40
US 6689368 B1 20040210 (200413) A61K039-29 <--
US 2004047877 A1 20040311 (200419) A61K039-12
JP 2004194668 A 20040715 (200446) 66 C12N015-09
EP 992581 B1 20040825 (200456) EN C12N015-09
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69433971 E 20040930 (200465) C12N015-09
EP 992580 B1 20050309 (200519) EN C12N015-09
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69434295 E 20050414 (200525) C12N015-09
DE 69433971 T2 20050908 (200559) C12N015-09
ES 2239819 T3 20051001 (200566) C12N015-09

ADT WO 9512677 A2 **WO 1994-EP3555 19941028**; AU 9479932 A **AU 1994-79932 19941028**; WO 9512677 A3 **WO 1994-EP3555 19941028**; EP 725824 A1 **EP 1994-931000 19941028, WO 1994-EP3555 19941028**; JP 09504534 W **WO 1994-EP3555 19941028, JP 1995-513004 19941028**; AU 698878 B **AU 1994-79932 19941028**; EP 979867 A2 **Div ex EP 1994-931000 19941028, EP 1999-116673 19941028**; EP 992580 A2 **Div ex EP 1994-931000 19941028, EP 1999-116671 19941028**; EP 992581 A2 **Div ex EP 1994-931000 19941028, EP 1999-116672 19941028**; EP 725824 B1 **EP 1994-931000 19941028, WO 1994-EP3555 19941028, Related to EP 1999-116671 19941028, Related to EP 1999-116672 19941028, Related to EP 1999-116673 19941028**; US 6555114 B1 **WO 1994-EP3555 19941028, US 1996-635886 19960425**; DE 69432475 E **DE 1994-632475 19941028, EP 1994-931000 19941028, WO 1994-EP3555 19941028**; US 6613333 B1 **Div ex US 1996-635886 19960425, US 1997-974690 19971119**; ES 2197170 T3 **EP 1994-931000 19941028**; US 6689368 B1 **Div ex WO 1994-EP3555 19941028, Div ex US 1996-635886 19960425,**

US 1997-974685 19971119; US 2004047877 A1 **Div ex WO 1994-EP3555 19941028, Div ex US 1996-635886 19960425, Div ex US 1997-974690 19971119**, US 2003-651165 20030829; JP 2004194668 A **Div ex JP 1995-513004 19941028**, JP 2004-34983 20040212; EP 992581 B1 **Div ex EP 1994-931000 19941028, EP 1999-116672 19941028**; DE 69433971 E **DE 1994-633971 19941028 , EP 1999-116672 19941028**; EP 992580 B1 **Div ex EP 1994-931000 19941028, EP 1999-116671 19941028**; DE 69434295 E **DE 1994-634295 19941028, EP 1999-116671 19941028**; DE 69433971 T2 **DE 1994-633971 19941028, EP 1999-116672 19941028**; ES 2239819 T3 **EP 1999-116671 19941028**

FDT AU 9479932 A Based on WO 9512677; EP 725824 A1 Based on WO 9512677; JP 09504534 W Based on WO 9512677; AU 698878 B Previous Publ. AU 9479932, Based on WO 9512677; EP 979867 A2 Div ex EP 725824; EP 992580 A2 Div ex EP 725824; EP 992581 A2 Div ex EP 725824; EP 725824 B1 Related to EP 979867, Related to EP 992580, Related to EP 992581, Based on WO 9512677; US 6555114 B1 Based on WO 9512677; DE 69432475 E Based on EP 725824, Based on WO 9512677; ES 2197170 T3 Based on EP 725824; US 2004047877 A1 Div ex US 6555114, Div ex US 6613333; EP 992581 B1 Div ex EP 725824; DE 69433971 E Based on EP 992581; EP 992580 B1 Div ex EP 725824; DE 69434295 E Based on EP 992580; DE 69433971 T2 Based on EP 992581; ES 2239819 T3 Based on EP 992580

PRAI **EP 1993-402718 19931104**

REP 3.Jnl.Ref; WO 9222571

IC ICM A61K039-12; **A61K039-29**; **C07K014-18**; C12N015-40
ICS A61K039-00; A61P031-14; A61P037-04; C07K014-00; C12Q001-70

ICA C12N015-09

AB WO 9512677 A UPAB: 20040418
(A) Use of a polypeptide (I) of 8-100 amino acids for the prepns. of a **HCV** immunogenic compsn., is new. (I) comprises at least 8 contiguous amino acids, selected from a **HCV** region comprising between: (i) amino acids 173-176 in the core region; (ii) amino acids 192-234 and 243-392 of the E1 region; (iii) amino acids 397-428 and 571-638 in the E3 region; or (iv) amino acids 1188 and 1463 of the NS3 region and with the contiguous amino acids, containing a T cell-stimulating epitope. Also claimed are: (B) a polypeptide comprising in its amino acid sequence multiple repeats, combinations or mimotopes of any of the contiguous amino acid sequences selected to contain T cell stimulating epitopes as above; etc.
USE - Using the methods immunodominant **hepatitis C** virus T cell epitopes can be used in **hepatitis C** prophylactic and therapeutic vaccines. The T-cell stimulating epitopes are derivative from the **HCV** core, **E1**, E2 and NS3 proteins and are T-cell helper epitopes or CTL epitopes.

FS CPI

FA AB; DCN

MC CPI: B04-C01; B04-N02A; D05-H07; D05-H17A5

L119 ANSWER 22 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

AN **1995-061006** [08] WPIX

CR 1996-139709 [14]

DNN **N1995-048475** DNC **C1995-027165**

TI **Envelope 1** cDNAs of 51 **hepatitis C** virus isolates - and derived oligo-nucleotide(s), peptide(s) and proteins, used in diagnosis and in vaccines.

DC B04 D16 S03

IN BUKH, J; MILLER, R H; PURCELL, R H

PA (USSH) US DEPT HEALTH & HUMAN SERVICES

CYC 20

PI WO 9501442 A2 19950112 (199508)* EN 186 C12N015-51 <--

RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA JP

AU	9473191	A	19950124 (199520)		C12N015-51	<--
WO	9501442	A3	19950810 (199619)		C12N015-51	<--
US	5514539	A	19960507 (199624)	57	C12Q001-70	<--
US	5871962	A	19990216 (199914)		C12P021-06	
US	6572864	B1	20030603 (200339)		A61K039-29	<--

ADT WO 9501442 A2 **WO 1994-US7320 19940628**; AU 9473191 A **AU 1994-73191 19940628**; WO 9501442 A3 **WO 1994-US7320 19940628**; US 5514539 A **US 1993-86428 19930629**; US 5871962 A **Div ex US 1993-86428 19930629, US 1995-468570 19950606**; US 6572864 B1 **Div ex US 1993-86428 19930629, US 1995-466601 19950606**

FDT AU 9473191 A Based on WO 9501442; US 5871962 A Div ex US 5514539

PRAI **US 1993-86428 19930629; US 1995-468570 19950606; US 1995-466601 19950606**

REP 14Jnl.Ref; EP 468527; EP 485209; EP 510952; EP 532167; EP 585549; WO 9208734; WO 9211370; WO 9219743; WO 9221759; WO 9302103; WO 9306126; WO 9315193; WO 9425601

IC ICM **A61K039-29**; C12N015-51; C12P021-06; C12Q001-70
ICS C07H021-02; C07H021-04; C07K014-48; C12P019-34; C12Q001-68; G01N033-576

AB WO 9501442 A UPAB: 20030619
cDNA (I) of the **envelope 1** gene of the **hepatitis C** virus (**HCV**) has a sequence selected from 51 different sequences, all 576 bps in length (given in the specification). Also claimed are: (A) a recombinant **HCV envelope 1** protein (**E1**) encoded by (I); (B) a recombinant protein (II) having an amino acid sequence selected from 51 different sequences, all 192 amino acids in length (given in the specification); (C) a recombinant expression vector (III) comprising (I); (D) a host organisms transformed or transfected with (III); (E) a method for detecting the presence of the **HCV** via a reverse transcription polymerase chain reaction process using primers (IV) selected from 6 sequences, all 40 bps in length (given in the specification); (F) isolated and purified primers (IV) as in (E); (G) a method for determining the genotype of **HCV** comprising (a) amplifying RNA via reverse transcription polymerase chain reaction to produce amplification products, as in (E), (b) contacting the products with at least **1** genotype specific oligonucleotide (ON), and (c) detecting complexes of the prods. which bind to the ON; (H) isolated and purified ON selected from 27 nucleic acid sequences (given in the specification); and (I') a purified and isolated peptide having an amino acid sequence selected from 24 sequences (given in the specification).

USE - The **HCV** cDNAs and derived oligonucleotides, peptides and recombinant **E1s** can be used in diagnostic methods (kits provided), in vaccines and in pharmaceutical compsns. (claimed). The compsns. can also be used to produce antibodies and antiserum. The oligonucleotides may be used in the inhibition of **E1** gene expression. The 51 isolates have been grouped into twelve distinct **HCV** genotypes based upon the degree of variation of the amino acid sequences.

Dwg.0/5

FS CPI EPI

FA AB

MC CPI: B04-B03C; B04-E01; B04-E02; B04-E03F; B04-E08; B04-F0100E; B04-F01E; B11-C07A; B11-C08E5; B12-K04F; B14-L06; B14-S11; D05-H06; D05-H07; D05-H09; D05-H12A; D05-H12D1; D05-H12E; D05-H14; D05-H17A6; D05-H18B
EPI: S03-E14H4

ABEQ US 5514539 A UPAB: 19960618
A new method for detecting the presence of **hepatitis C**

virus comprising:

(a) amplifying RNA via reverse transcription-polymerase chain reaction to produce amplification products;

(b) contacting said products with a nucleotide sequence selected from the sequences shown in SEQ ID NO: 1-51 (as shown in the specification); and

(c) detecting complexes of said products and said nucleotide sequence.

Dwg.0/5

L119 ANSWER 23 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN 1994-358277 [44] WPIX
DNN N1994-280674 DNC C1994-163538
TI New polynucleotide sequences from **hepatitis C** virus - and related vectors, polypeptide(s) and antibodies, useful for immunisation, treatment, diagnosis and typing of **HCV** isolates.
DC B04 D16 S03
IN **MAERTENS, G**; STUYVER, L; MAERTERNS, G
PA (INNO-N) **INNOGENETICS NV SA**; (INNO-N) **INNOGENETICS NV**; (INNO-N) **INNOGENETICS SA**
CYC 55
PI WO 9425601 A2 19941110 (199444)* EN 404 C12N015-51 <--
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB GE HU JP KG KP KR KZ LK LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA US UZ VN
AU 9467222 A 19941121 (199508) C12N015-51 <--
NO 9404967 A 19941221 (199511) C12N015-51 <--
FI 9406066 A 19941223 (199512) A61K000-00 <--
EP 651807 A1 19950510 (199523) EN C12N015-51 <--
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 07508423 W 19950921 (199546) 117 C12N015-09 <--
WO 9425601 A3 19950302 (199612) C12N015-51 <--
CN 1108030 A 19950906 (199732) C12N015-51 <--
NZ 266148 A 19970624 (199732) C12N015-51 <--
AU 688323 B 19980312 (199822) C07K013-00 <--
SG 50563 A1 19980720 (199838) C12N015-51 <--
BR 9405334 A 19990525 (199926) C12N015-51
EP 984067 A2 20000308 (200017) EN C12N015-41
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE SI
EP 984068 A2 20000308 (200017) EN C12N015-51
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE SI
EP 1004670 A2 20000531 (200031) EN C12N015-40
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE SI
JP 2002233388 A 20020820 (200258) 293 C12N015-09
JP 2002233389 A 20020820 (200258) 291 C12N015-09
US 2003008274 A1 20030109 (200311) C12Q001-70
US 2003032005 A1 20030213 (200314) C12Q001-70
US 2003064360 A1 20030403 (200325) C12Q001-70
JP 2004041206 A 20040212 (200413) 108 C12N015-09
JP 2004041207 A 20040212 (200413) 108 C12N015-09
US 6762024 B2 20040713 (200446) C12Q001-68
ADT WO 9425601 A2 **WO 1994-EP1323 19940427**; AU 9467222 A **AU 1994-67222 19940427**; NO 9404967 A **WO 1994-EP1323 19940427, NO 1994-4967 19941221**; FI 9406066 A **WO 1994-EP1323 19940427, FI 1994-6066 19941223**; EP 651807 A1 **EP 1994-915550 19940427, WO 1994-EP1323 19940427**; JP 07508423 W **JP 1994-523877 19940427, WO 1994-EP1323 19940427**; WO 9425601 A3 **WO 1994-EP1323 19940427**; CN 1108030 A **CN 1994-190232 19940427**; NZ 266148 A **NZ 1994-266148 19940427**,

WO 1994-EP1323 19940427; AU 688323 B **AU 1994-67222 19940427**; SG 50563 A1 **SG 1996-5012 19940427**; BR 9405334 A **BR 1994-5334 19940427, WO 1994-EP1323 19940427**; EP 984067 A2 **Div ex EP 1994-915550 19940427, EP 1999-118785 19940427**; EP 984068 A2 **Div ex EP 1994-915550 19940427, EP 1999-118784 19940427**; EP 1004670 A2 **Div ex EP 1994-915550 19940427, EP 1999-118783 19940427**; JP 2002233388 A **Div ex JP 1994-523877 19940427, JP 2001-355654 19940427**; JP 2002233389 A **Div ex JP 1994-523877 19940427, JP 2001-356707 19940427**; US 2003008274 A1 **Div ex US 1995-362455 19950111**, US 2001-899046 20010706; US 2003032005 A1 **Cont of US 1995-362455 19950111**, US 2001-878281 20010612; US 2003064360 A1 **Cont of WO 1994-EP1323 19940427, Cont of US 1995-362455 19950111**, Div ex US 2000-638693 20000815, US 2001-873224 20010605; JP 2004041206 A **Div ex JP 2001-355654 19940427**, JP 2003-272022 20030708; JP 2004041207 A **Div ex JP 2001-356707 19940427**, JP 2003-272151 20030709; US 6762024 B2 **WO 1994-EP1323 19940427, Cont of US 1995-362455 19950111**, US 2001-878281 20010612

FDT AU 9467222 A Based on WO 9425601; EP 651807 A1 Based on WO 9425601; JP 07508423 W Based on WO 9425601; NZ 266148 A Based on WO 9425601; AU 688323 B Previous Publ. AU 9467222, Based on WO 9425601; BR 9405334 A Based on WO 9425601; EP 984067 A2 Div ex EP 651807; EP 984068 A2 Div ex EP 651807; EP 1004670 A2 Div ex EP 651807; US 6762024 B2 Based on WO 9425601

PRAI **EP 1993-401099 19930427; EP 1993-402019 19930805**

REP No-SR.Pub; 8.Jnl.Ref; WO 9219743; WO 9306126; WO 9310239

IC ICM A61K000-00; C07K013-00; C12N015-09; C12N015-40; C12N015-41; C12N015-51; C12Q001-68; C12Q001-70

ICS A61K031-711; A61K031-713; A61K035-76; A61K038-00; A61K039-00; A61K039-245; **A61K039-29**; A61K039-395; A61K048-00; A61P001-16; A61P031-12; A61P031-14; A61P031-20; C07H014-18; C07H021-04; C07K007-06; C07K007-10; C07K014-035; **C07K014-18** ; C07K016-08; C07K016-10; C12N005-06; C12N007-00; C12N015-63; C12N015-86; C12P021-02; G01N033-15; G01N033-50; G01N033-53; G01N033-537; G01N033-566; G01N033-576

AB WO 9425601 A UPAB: 19941223

Compsn. comprises (or consists of) at least one polynucleotide containing 8 or more contiguous nucleotides from one of the following **hepatitis C** virus (**HCV**) sequences (1) a type 3 genomic sequence, partic. positions 417-957 of the Core/**E1** region of subtype 3a; 4664-4730 of the NS3 region of type 3; 4892-5292 of the NS3/4 region of type 3; 8023-8235 of the NS5 region of subtype 3a; or any subtype 3c region; (2) a subtype 2d genomic sequence; (3) a type 4 genomic sequence; or (4) the coding region of subtype 5a. (I) have at least one nucleotide different from known **HCV** sequences in the specified regions, and their complements are included. A table is presented related the numbering system used here to published systems. Also new are (1) compsns. comprising (or consisting of) at least one (poly)peptide (II) containing a contiguous sequence of at least 5 amino acids of an **HCV** protein encoded by (I); (2) recombinant cloning or expression vectors containing (I); (3) kits for detecting presence of **HCV** genotypes or antibodies; and (4) antibodies (Ab) raised against (II).

USE - (I) can be used as primers to amplify nucleic acid from an isolate belonging to a specific genotype, also as probes for specific detection/classification of nucleic acid. (II) and the vectors can be used for immunisation against **HCV**; for in vitro detection of **HCV** antibodies in biological samples (by standard immunoassays) and for serotyping. Ab can also be used as immunoassay reagents or therapeutically.

ADVANTAGE - The new type-specific sequences will improve the overall

sensitivity of **HCV** detection.
Dwg.0/13
FS CPI EPI
FA AB; DCN
MC CPI: B04-E01; B04-E08; B04-F11; B04-G01; B04-N03; B11-C07A; B11-C09; B12-K04A4; B14-N12; D05-H06; D05-H09; D05-H12A; D05-H12D1; D05-H12E; J04-B01
EPI: S03-E14H4

L119 ANSWER 24 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1994-355513** [44] WPIX
DNC **C1994-162463**
TI Purificn. of **envelope 1** protein from **hepatitis C** virus.
DC B04 D16
IN CHOE, D; JO, J
PA (LUCK-N) LUCKY CO LTD
CYC 1
PI KR 9312102 B1 19931224 (199444)* 1 C12N007-02 <--
ADT KR 9312102 B1 **KR 1991-25505 19911230**
PRAI **KR 1991-25505 19911230**
IC ICM C12N007-02
ICS C12N015-51
AB KR 9312102 B UPAB: 19941223
A gene of **envelope 1** protein from **hepatitis C** virus and a gene of ubiquitin were fused, and cloned into a plasmid ptrpH. E. coli W3110 was transformed by the recombinant vector ptrpH-UB-**E1**. The transformant E. coli W3110 (ATCC 12301) carrying the recombinant vector ptrpH-UB-**E1** was cultured in Luria medium containing ampicillin (50 mug/ml) for 12 hrs. with shaking. The preculture was inoculated to M9 medium containing casamino acid (2%), tryptophan (10 mug/ml) and cultured for 4 hrs. with shaking. Indoleacrylcic acid (50 mug/ml) was added at OD650 approx. equal 0.5 and cultured for a further 5 hrs.. The cell pellet was recovered by centrifugation. After sonication, insoluble protein was separated by centrifugation. The insoluble protein was dissolved in 8M guanidine hydrochloride solution After recovering ppte., the ppte. was redissolved in 9M urea solution The fused protein UBEI was purified by Q-sepharose ion-exchange chromatography from the solution
FS CPI
FA AB
MC CPI: B04-N0300E; D05-H01; D05-H12A; D05-H12E; D05-H13

L119 ANSWER 25 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1994-035224** [04] WPIX
DNN **N1994-027355** DNC **C1994-016312**
TI Immunoassays for anti-**HCV** antibodies - using **HCV** enveloped conformational epitope(s), **E1** and E2, for screening e.g. blood products..
DC B04 D16 S03
IN CHIEN, D Y
PA (CHIR) CHIRON CORP; (CHIE-I) CHIEN D Y
CYC 29
PI WO 9401778 A1 19940120 (199404)* EN 38 G01N033-576 <--
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA CZ FI HU JP NO PL RU SK UA
AU 9346629 A 19940131 (199422) G01N033-576 <--
NO 9500006 A 19950224 (199518) G01N033-576 <--
FI 9500002 A 19950227 (199520) G01N000-00 <--
EP 649537 A1 19950426 (199521) EN G01N033-576 <--

R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
SK 9500004 A3 19950711 (199537) G01N033-576 <--
JP 07509060 W 19951005 (199548) 13 G01N033-569 <--
CZ 9500006 A3 19960313 (199618) G01N033-576 <--
HU 70473 T 19951030 (199732) G01N033-576 <--
AU 685059 B 19980115 (199809) G01N033-576 <--
RU 2126158 C1 19990210 (200021) G01N033-576
EP 649537 B1 20020424 (200228) EN G01N033-576
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69331845 E 20020606 (200245) G01N033-576
ES 2171414 T3 20020916 (200270) G01N033-576
US 2002150883 A1 20021017 (200270) C12Q001-70
FI 110546 B1 20030214 (200320) G01N033-576
CA 2139645 C 20030211 (200321) EN G01N033-576
CZ 291951 B6 20030618 (200347) G01N033-576
JP 2003329687 A 20031119 (200401) 16 G01N033-576
JP 3490085 B2 20040126 (200410) 18 G01N033-569
SK 284556 B6 20050602 (200565) G01N033-576

ADT WO 9401778 A1 **WO 1993-US6309 19930702**; AU 9346629 A **AU 1993-46629 19930702**; NO 9500006 A **WO 1993-US6309 19930702, NO 1995-6 19950102**; FI 9500002 A **WO 1993-US6309 19930702 , FI 1995-2 19950102**; EP 649537 A1 **EP 1993-916942 19930702, WO 1993-US6309 19930702**; SK 9500004 A3 **WO 1993-US6309 19930702, SK 1995-4 19930702**; JP 07509060 W **WO 1993-US6309 19930702, JP 1994-503440 19930702**; CZ 9500006 A3 **CZ 1995-6 19930702**; HU 70473 T **WO 1993-US6309 19930702, HU 1995-8 19930702**; AU 685059 B **AU 1993-46629 19930702**; RU 2126158 C1 **WO 1993-US6309 19930702, RU 1994-46284 19930702**; EP 649537 B1 **EP 1993-916942 19930702, WO 1993-US6309 19930702**; DE 69331845 E **DE 1993-631845 19930702, EP 1993-916942 19930702, WO 1993-US6309 19930702**; ES 2171414 T3 **EP 1993-916942 19930702** ; US 2002150883 A1 **Cont of US 1992-910759 19920707, Cont of US 1994-334460 19941104**, US 2001-920879 20010802; FI 110546 B1 **WO 1993-US6309 19930702, FI 1995-2 19950102**; CA 2139645 C **CA 1993-2139645 19930702, WO 1993-US6309 19930702**; CZ 291951 B6 **WO 1993-US6309 19930702, CZ 1995-6 19930702** ; JP 2003329687 A **Div ex JP 1994-503440 19930702, JP 2003-109573 19930702**; JP 3490085 B2 **WO 1993-US6309 19930702 , JP 1994-503440 19930702**; SK 284556 B6 **WO 1993-US6309 19930702, SK 1995-4 19930702**

FDT AU 9346629 A Based on WO 9401778; EP 649537 A1 Based on WO 9401778; JP 07509060 W Based on WO 9401778; HU 70473 T Based on WO 9401778; AU 685059 B Previous Publ. AU 9346629, Based on WO 9401778; EP 649537 B1 Based on WO 9401778; DE 69331845 E Based on EP 649537, Based on WO 9401778; ES 2171414 T3 Based on EP 649537; FI 110546 B1 Previous Publ. FI 9500002; CA 2139645 C Based on WO 9401778; CZ 291951 B6 Previous Publ. CZ 9500006, Based on WO 9401778; JP 3490085 B2 Previous Publ. JP 07509060, Based on WO 9401778; SK 284556 B6 Previous Publ. SK 9500004, Based on WO 9401778

PRAI **US 1992-910759 19920707; US 1994-334460 19941104**; US 2001-920879 20010802

IC ICM C12Q001-70; G01N000-00; G01N033-569; G01N033-576
ICS **A61K039-29**; C07K001-00; C07K014-00; **C07K014-18**; **C07K017-00**; C12N007-00; C12N007-01; C12N015-00; C12N015-09; C12N015-63; C12N015-70; C12N015-74; G01N033-53

AB WO 9401778 A UPAB: 19940613
A method for detecting antibodies (Abs) to **hepatitis C** virus (**HCV**) in a mammalian body component suspected of containing the Abs involves (i) contacting the body component with an **HCV** antigen comprising a conformational epitope from the **E1** or E2

domain of **HCV** under conditions to allow an immunological reaction between any Abs and the Ag; and (ii) detecting the presence of any immune complexes between Abs and Ag.

Also claimed are (1) a method of screening blood components or blood, for **HCV** prior to use in the preparation of blood products, comprising (i) reacting a body component from a potential donor with an **HCV** Ag comprising a conformational epitope from the **E1** or E2 domains of **HCV** under conditions to allow Ab-Ag reactions as above; (ii) detecting any Ab-Ag complexes formed; and (iii) discarding any blood or blood component from the donor if complexes are detected; and (2) a kit for detecting **HCV** Abs comprising an **HCV** Ag including a conformational epitope from the **E1** or E2 domains of **HCV** , and control standards, packaged in suitable vials, and instructions for use of the kit components.

USE/ADVANTAGE - The immunoassays described are useful in screening and diagnosis of **HCV** infection. The techniques are partic. useful in the preparation of blood products. Polypeptides prepared from the **E1** and E2 epitopes may also be useful in vaccines and immunotherapeutic agents for the prevention and/or treatment of **hepatitis C**. The new Ags detect Abs that are not detected by denatured **HCV** envelope antigens. The conformational epitopes are more immunologically reactive than other **HCV** antigens. This is the first evidence that conformational epitopes may be involved in the immunological response to **HCV** antigens.

Dwg.2/3

FS CPI EPI
FA AB; GI
MC CPI: B04-B04C1; B04-B04D5; B04-G08; B11-C07A; B12-K04A4; D05-H07; D05-H09; D05-H11
EPI: S03-E14H4

L119 ANSWER 26 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1992-433657** [52] WPIX
CR 1999-141865 [12]; 1999-394595 [33]
DNN **N1992-330895** DNC **C1992-192564**
TI New nucleotide and peptide sequences - specific for French isolate of **hepatitis C** virus and useful in diagnosing and treating related infections.
DC B04 D16 S03
IN BRECHOT, C; KREMSDORF, D; PORCHON, C
PA (INSP) INST PASTEUR
CYC 18
PI

WO 9221759	A1	19921210 (199252)*	FR	50	C12N015-51	<--
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE						
W: CA JP US						
FR 2677372	A1	19921211 (199306)		43	C12N015-51	<--
EP 542970	A1	19930526 (199321)	FR	50	C12N015-51	<--
R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE						
JP 06500698	W	19940127 (199409)		50	C12N015-51	<--
US 5879904	A	19990309 (199917)			C07H021-04	
US 6210962	B1	20010403 (200120)			C07H021-04	

ADT WO 9221759 A1 **WO 1992-FR501 19920604**; FR 2677372 A1 **FR 1991-6882 19910606**; EP 542970 A1 **EP 1992-911801 19920604, WO 1992-FR501 19920604**; JP 06500698 W **JP 1992-510772 19920604, WO 1992-FR501 19920604**; US 5879904 A **WO 1992-FR501 19920604, US 1993-965285 19930318**; US 6210962 B1 **Cont of WO 1992-FR501 19920604, Cont of US 1993-965285 19930318, US 1998-201912 19981130**
FDT EP 542970 A1 Based on WO 9221759; JP 06500698 W Based on WO 9221759; US 5879904 A Based on WO 9221759; US 6210962 B1 Cont of US 5879904

PRAI **FR 1991-6882 19910606**
REP 3.Jnl.Ref; EP 318216; EP 388232; EP 398748; WO 8904669; WO 9000597; WO 9011089; WO 9014436
IC ICM C07H021-04; C12N015-51
ICS A61K031-00; **A61K039-29**; **A61K039-42**; C07K013-00; C07K015-28; C12N005-16; C12N005-20; C12N015-63; C12P021-08; C12Q001-68; G01N033-569; G01N033-577
AB WO 9221759 A UPAB: 20010518
New DNA sequences from the **E1** isolate of **hepatitis C** virus comprise (1) one of 3 sequences reproduced in the specification of 501, 1210 and 943 bp., (2) specified fragments of at least 10 bases from the 501 and 1210 bp sequences and (3) any analogous sequences within the degeneracy of the genetic code.

Also new are (1) proteins and peptides (II) encoded by (I) (also their homologues with similar biological and immunological activities), (2) expression vectors containing (I), (3) hosts transformed with these vectors, (4) human and murine monoclonal antibodies (MAb) raised against (II), including their fragments and derivs. carrying a label or therapeutic agent, and (5) hybridomas producing these MAb.

USE/ADVANTAGE - Short (I) are useful as probes for detecting **HCV** sequences, MAb are used to detect or determine **HCV E1**-specific antigens in biological samples and (II) are used to detect anti-**HCV** antibodies. MAb can also be used therapeutically and immunogenic (II) when coupled to a suitable carrier are used to induce protective antibodies or cytotoxic T-lymphocytes.

Dwg.0/9
FS CPI EPI
FA AB
MC CPI: B04-B04A1; B04-B04A3; B04-B04A5; B04-B04C5; B11-C07A; B12-A01; B12-A06; B12-K04A; D05-C11; D05-H06; D05-H07; D05-H08; D05-H11; D05-H12
EPI: S03-E14H4
ABEQ EP 542970 A UPAB: 19931114
New DNA sequences from the **E1** isolate of **hepatitis C** virus comprise (1) one of 3-sequences reproduced in the specification of 501, 1210 and 943 bp., (2) specified fragments of at least 10 bases from the 501 and 1210 bp. sequences and (3) any analogous sequences within the degeneracy of the genetic code.

Also new are (1) proteins and peptides (II) encoded by (I) (also their homologues with similar biological and immunological activities), (2) expression vectors contg. (I), (3) hosts transformed with these vectors, (4) human and murine nonoclonal antibodies (MAb) raised against (II), including their fragments and derivs. carrying a label or therapeutic agent, and (5) hybridomas producing these MAb.

USE/ADVANTAGE - Short (I) are useful as probes for detecting **HCV** sequences, MAb are used to detect or determine **HCV E1**-specific antigens in biological samples and (II) are used to detect anti-**HCV** antibodies, MAb can also be used therapeutically and immunogenic (II) when coupled to a suitable carrier are used to induce protective antibodies or cytotoxic T-lymphocytes.

L119 ANSWER 27 OF 27 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1992-200135** [24] WPIX
CR 1989-159274 [22]; 1989-215054 [30]; 1990-284418 [38]; 1990-350477 [47]; 1991-059670 [09]; 1991-297685 [41]; 1992-080094 [10]; 1996-030564 [03]; 1996-117956 [13]; 1997-525681 [48]; 1997-548976 [50]; 1998-119973 [11]; 1999-590406 [50]; 2000-566891 [53]; 2002-040268 [05]; 2004-193149 [19]
DNC **C1992-091099**
TI New **hepatitis C** virus proteins **E1** and E2 - useful for prevention and diagnosis of non-A non-B hepatitis and for

concentrating or reducing **hepatitis C** virus proteins in biological samples.

DC B04 D16

IN GERVASE, B A; HALL, J A; MARCUS, F; RALSTON, R O; THUDIUM, K B; RAISTON, R O; GERVASE, A B; HALL, A J; RALSTON, O R; THUDIUM, B K; MARCUS, F D

PA (CHIR) CHIRON CORP

CYC 29

PI	WO 9208734	A1	19920529 (199224)*	EN	31	C07K009-00	<--
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	W: AU CA CS FI HU JP NO PL RO SU						
	AU 9190267	A	19920611 (199237)				<--
	PT 99466	A	19921030 (199247)			C12P021-00	<--
	EP 556292	A1	19930825 (199334)	EN			<--
	R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE						
	FI 9302025	A	19930607 (199334)			C07K000-00	<--
	NO 9301680	A	19930628 (199337)			C07K009-00	<--
	SK 9300442	A3	19930811 (199418)			A61K037-02	<--
	CZ 9300824	A3	19940413 (199422)				<--
	JP 06504431	W	19940526 (199425)		13	C12P021-02	<--
	HU 66063	T	19940928 (199439)			C12N015-51	<--
	EP 556292	A4	19950118 (199545)				<--
	AU 668078	B	19960426 (199624)			C07K015-04	<--
	FI 9701702	A	19970421 (199729)			C07K000-00	<--
	NO 9702213	A	19930628 (199733)			C07K014-18	<--
	SK 9700690	A3	19971105 (199803)			C07K009-00	<--
	EP 842947	A2	19980520 (199824)	EN		C07K014-18	<--
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	NO 304380	B1	19981207 (199904)			C07K014-18	<--
	NO 304381	B1	19981207 (199904)			C07K014-18	<--
	PT 102022	A	19990129 (199909)			C07K014-18	<--
	JP 11071395	A	19990316 (199921)		11	C07K014-18	<--
	JP 2945759	B2	19990906 (199942)		11	C12N015-09	
	EP 556292	B1	19991229 (200005)	EN		C07K014-18	<--
	R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE						
	DE 69131882	E	20000203 (200013)			C07K014-18	<--
	ES 2139591	T3	20000216 (200016)			C07K014-18	<--
	RU 2123528	C1	19981220 (200017)			C12N015-00	<--
	RO 115446	B1	20000228 (200020)			C07K009-00	
	CA 2203443	C	20010828 (200154)	EN		C07K014-18	<--
	JP 3207155	B2	20010910 (200155)		11	C07K014-18	<--
	FI 107803	B1	20011015 (200169)			C07K014-18	<--
	FI 107804	B1	20011015 (200169)			C07K014-18	<--
	CZ 289006	B6	20011017 (200172)			C07K014-18	<--
	JP 2001286290	A	20011016 (200176)		11	C12N015-09	
	RU 2175657	C2	20011110 (200208)			C07K014-00	
	CZ 289923	B6	20020417 (200231)			C07K009-00	
	RO 117920	B1	20020930 (200281)			C07K009-00	
	JP 2003093081	A	20030402 (200331)		11	C12N015-09	
	JP 2003174875	A	20030624 (200351)		10	C12N015-09	
	IE 82983	B	20030806 (200359)			C07K014-18	<--
	EP 842947	B1	20040421 (200428)	EN		C07K014-18	<--
	R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE						
	DE 69133382	E	20040603 (200436)			C07K014-18	<--
	EP 1471073	A2	20041027 (200471)	EN		C07K014-18	<--
	R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE						
	ES 2218629	T3	20041116 (200477)			C07K014-18	<--
	JP 2005187479	A	20050714 (200546)		15	C07K014-18	<--

ADT WO 9208734 A1 **WO 1991-US8272 19911107**; AU 9190267 A **AU 1991-90267 19911107, WO 1991-US8272 19911107**; PT 99466 A **PT 1991-99466 19911108**; EP 556292 A1 **WO 1991-US8272**

19911107, EP 1992-900091 19911107; FI 9302025 A **WO 1991-US8272 19911107, FI 1993-2025 19930505**; NO 9301680 A **WO 1991-US8272 19911107, NO 1993-1680 19930507**; SK 9300442 A3 **SK 1993-442 19930506**; CZ 9300824 A3 **CZ 1993-824 19911107**; JP 06504431 W **WO 1991-US8272 19911107, JP 1992-500944 19911107**; HU 66063 T **WO 1991-US8272 19911107, HU 1993-1336 19911107**; EP 556292 A4 EP 1992-900091 ; AU 668078 B **AU 1991-90267 19911107**; FI 9701702 A **WO 1991-US8272 19911107, Div ex FI 1993-2025 19930505, FI 1997-1702 19970421**; NO 9702213 A **WO 1991-US8272 19911107, Div ex NO 1993-1680 19930507, NO 1997-2213 19970514**; SK 9700690 A3 **WO 1991-US8272 19911107, SK 1997-690 19911107** ; EP 842947 A2 **Div ex EP 1992-900091 19911107, EP 1997-120661 19911107**; NO 304380 B1 **WO 1991-US8272 19911107, NO 1993-1680 19930507**; NO 304381 B1 **WO 1991-US8272 19911107, Div ex NO 1993-1680 19930507, NO 1997-2213 19970514**; PT 102022 A **PT 1997-102022 19970626**; JP 11071395 A **Div ex JP 1992-500944 19911107, JP 1998-103178 19911107**; JP 2945759 B2 **WO 1991-US8272 19911107, JP 1992-500944 19911107**; EP 556292 B1 **WO 1991-US8272 19911107, EP 1992-900091 19911107, Related to EP 1997-120661 19911107**; DE 69131882 E **DE 1991-631882 19911107, WO 1991-US8272 19911107, EP 1992-900091 19911107**; ES 2139591 T3 **EP 1992-900091 19911107**; RU 2123528 C1 **RU 1993-43621 19911107**; RO 115446 B1 **WO 1991-US8272 19911107, RO 1993-626 19911107**; CA 2203443 C **Div ex CA 1991-2095521 19911107, CA 1991-2203443 19911107**; JP 3207155 B2 **Div ex JP 1992-500944 19911107, JP 1998-103178 19911107**; FI 107803 B1 **WO 1991-US8272 19911107, FI 1993-2025 19930505** ; FI 107804 B1 **WO 1991-US8272 19911107, Div ex FI 1993-2025 19930505, FI 1997-1702 19970421**; CZ 289006 B6 **WO 1991-US8272 19911107, CZ 1993-824 19911107**; JP 2001286290 A **Div ex JP 1998-103178 19911107, JP 2001-59335 19911107**; RU 2175657 C2 **Div ex RU 1993-43621 19911107, RU 1997-115378 19911107**; CZ 289923 B6 **WO 1991-US8272 19911107, CZ 1997-2196 19911107**; RO 117920 B1 **RO 1997-1809 19911107**; JP 2003093081 A **Div ex JP 2001-59335 19911107, JP 2002-199317 19911107**; JP 2003174875 A **Div ex JP 2001-59335 19911107, JP 2002-353148 19911107**; IE 82983 B **IE 1991-3916 19911108** ; EP 842947 B1 **Div ex EP 1992-900091 19911107, EP 1997-120661 19911107**; DE 69133382 E **DE 1991-633382 19911107 , EP 1997-120661 19911107**; EP 1471073 A2 **Div ex EP 1992-900091 19911107, Div ex EP 1997-120661 19911107, EP 2004-76119 19911107**; ES 2218629 T3 **EP 1997-120661 19911107**; JP 2005187479 A **Div ex JP 2002-199317 19911107,** JP 2005-35317 20050210

FDT AU 9190267 A Based on WO 9208734; EP 556292 A1 Based on WO 9208734; JP 06504431 W Based on WO 9208734; HU 66063 T Based on WO 9208734; AU 668078 B Previous Publ. AU 9190267, Based on WO 9208734; EP 842947 A2 Div ex EP 556292; NO 304380 B1 Previous Publ. NO 9301680; NO 304381 B1 Previous Publ. NO 9702213; JP 2945759 B2 Previous Publ. JP 06504431, Based on WO 9208734; EP 556292 B1 Related to EP 842947, Based on WO 9208734; DE 69131882 E Based on EP 556292, Based on WO 9208734; ES 2139591 T3 Based on EP 556292; RO 115446 B1 Based on WO 9208734; JP 3207155 B2 Previous Publ. JP 11071395; FI 107803 B1 Previous Publ. FI 9302025; FI 107804 B1 Previous Publ. FI 9701702; CZ 289006 B6 Previous Publ. CZ 9300824, Based on WO 9208734; CZ 289923 B6 Previous Publ. CZ 9702196, Based on WO 9208734; EP 842947 B1 Div ex EP 556292; DE 69133382 E Based on EP 842947; EP 1471073 A2 Div ex EP 556292, Div ex EP 842947; ES 2218629 T3 Based on EP 842947

PRAI **US 1991-758880 19910913; US 1990-611419**

19901108; US 1990-611965 19901108
REP EP 318216; EP 320267; EP 388232; WO 9115771
IC ICM A61K037-02; C07K000-00; C07K009-00; C07K014-00; **C07K014-18**; C07K015-04; C12N015-00; C12P021-00
ICS A61K031-00; A61K038-02; A61K038-10; A61K038-14; A61K038-16; **A61K039-29**; A61P031-12; C07K001-14; C07K003-18; C07K003-20; C07K015-00; C07K015-14; C07K016-00; C12N001-15; C12N001-19; C12N001-21; C12N005-10; C12N015-04; C12N015-40; C12P021-08; C12Q001-70; G01N033-53; G01N033-571; G01N033-576
ICA A61K037-10; C12N015-09; C12N015-51; C12P021-02
ICI C12P021-02, C12R001:91; C12N005-10; C12N015-09; C12R001:91; C12R001:93; C12P021-02, C12R001:91
AB WO 9208734 A UPAB: 20050720
The following are claimed: (A) an isolated **hepatitis C** virus (**HCV**) a sialoglycoprotein (AG) selected from **E1** and E2; (B) a method for purifying **HCV** AGs, which comprises (a) contacting a compsn. containing **HCV** AGs with a mannose-binding protein, e.g. concanavalin A (ConA) or Galanthus nivalus agglutinin (GNA) and (b) isolating the portion of the compsn. which binds to the mannose-binding protein, e.g. by elution with mannose; (c) an assay kit for detecting the presence of **HCV** AGs, comprising (a) a solid support, (b) a mannose-binding protein, and (c) an antibody specific for the **HCV** AG, where one of the antibody and the mannose-binding protein is bound to the solid support; (D) a method for determining exposure to or infection by **HCV**, in which any **HCV** in a sample of body fluid is concentrated by contact with a mannose-binding protein prior to assay; (E) a cell transformed with a vector for recombinant expression of a **HCV** AG, where the vector comprises a structural gene encoding a glycosoylation signal, a **HCV** AG, a regulatory sequence operable in the host cell and capable of regulating expressio fo the **HCV** AG, and a selectable marker, where the cell does not sialylate glycoproteins; and (F) a method for reducing or eliminatng the presence of **HCV** in plasma, serum or other biological liquids.
USE - The method and reagents can be used for the prevention and diagnosis of Non-A, Non-B hepatitis (NANBH) and for concentrating or eliminating **HCV** proteins in biological samples
Dwg.0/0
FS CPI
FA AB
MC CPI: B02-V02; B04-B02B4; B04-B04A1; B04-B04A3; B04-B04A5; B04-B04C6; B11-C07A; B12-G02; B12-K04A4; D05-H06; D05-H12
ABEQ EP 556292 A UPAB: 19931119
The following are claimed: (A) an isolated **hepatitis C** virus (**HCV**) a sialoglycoprotein (AG) selected from **E1** and E2; (B) a method for purifying **HCV** AGs, which comprises (a) contacting a compsn. contg. **HCV** AGs with a mannose-binding protein, e.g. concanavalin A (ConA) or Galanthus nivalus agglutinin (GNA) and (b) isolating the portion of the compsn. which binds to the mannose-binding protein, e.g. by elution with mannose; (c) an assay kit for detecting the presence of **HCV** AGs, comprising (a) a solid support, (b) a mannose-binding protein, and (c) an antibody specific for the **HCV** AG, where one of the antibody and the mannose-binding protein is bound to the solid support; (D) a method for determining exposure to or infection by **HCV**, in which any **HCV** in a sample of body fluid is conc. by contact with a mannose-binding protein prior to assay; etc.
USE - The method and reagents can be used for the prevention and diagnosis of Non-A, Non-B hepatitis (NANBH) and for concentrating or eliminating **HCV** proteins in biological samples

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=> d his

     (FILE 'HOME' ENTERED AT 09:05:31 ON 06 FEB 2006)
               SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 09:05:43 ON 06 FEB 2006
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L1          66 S E3,E4
               E BOSMAN F/AU
L2          51 S E3-E5
               E BUYSE M/AU
L3          27 S E3,E4,E8,E9
               E INNOGEN/PA,CS
L4         207 S E11-E55
L5           2 S US20030118603/PN OR US2001-995860#/AP,PRN
L6       17671 S HCV OR HEPATIT?(L)C(L)(?VIRUS? OR ?VIRAL? OR ?VIRUC?)
               E HCV/CT,CW
               E E3+ALL
               E E3+ALL
L7       10769 S E7+OLD,NT
               E E6+ALL
L8       10779 S E6+NT
L9       17761 S L6-L8
L10        887 S L9 AND ("E1" OR E1S OR ENVELOPE(S)1)
L11        344 S L10 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L12         19 S L1-L5 AND L11
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L14         55 S L1-L5 AND L9 NOT L12
L15         19 S L14 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
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L17         53 S L11 AND A61K039-29/IPC
L18         18 S L16 NOT L17
               SEL AN 2
L19          1 S L18 AND E5-E6
L20         19 S L17 AND (PHARMACEUT? OR PHARMACOL?)/SC,SX
               SEL AN 4 7 9 10 11 17 19
L21         12 S L20 NOT E7-E20
L22         34 S L17 NOT L20
L23          4 S L22 AND "E1"/TI
L24         30 S L22 NOT L23
L25         11 S L24 AND "E1"/AB
L26         19 S L24 NOT L25
L27          1 S L26 AND "E 1"
L28         18 S L26 NOT L27
L29         12 S L28 AND ("E1" OR ENVELOPE 1)
               SEL AN 1 3-7 9-10 12
L30          3 S L29 NOT E21-E38
L31         18 S L11 AND (A16K039-44 OR A61K039-42 OR C07K017)/IPC
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L32          3 S L31 NOT E39-E68
L33         15 S L31 NOT L32
               SEL AN 1-4 6-8 10 12-14
L34          4 S L33 NOT E69-E90
L35         11 S L33 NOT L34
               SEL AN 4 11
L36          2 S L35 AND E91-E94
L37         32 S L13,L19,L21,L23,L27,L30,L32,L34,L36
L38         32 S L37 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
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L39          36 S L9 AND 192
L40          23 S L9 AND 326
L41           2 S L39 AND L40
L42           1 S L41 NOT NEISSERIA/TI

     FILE 'REGISTRY' ENTERED AT 09:37:28 ON 06 FEB 2006
L43           1 S 763256-03-7
L44           3 S HEPATITIS(S)C(S)192(S)326
L45           3 S L43,L44

     FILE 'HCAPLUS' ENTERED AT 09:38:54 ON 06 FEB 2006
L46           3 S L45
L47           2 S L46 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L48          33 S L38,L42,L46,L47
L49          33 S L48 AND L1-L42,L46-L48
L50          33 S L49 AND ("E1" OR E1S OR "E 1" OR ENVELOPE 1)

     FILE 'REGISTRY' ENTERED AT 09:40:26 ON 06 FEB 2006

     FILE 'HCAPLUS' ENTERED AT 09:40:53 ON 06 FEB 2006

     FILE 'MEDLINE' ENTERED AT 09:42:35 ON 06 FEB 2006
                 E HEPATITIS C/CT
L51         26568 S E3+NT OR E4+NT OR E23+NT OR E45+NT
                 E E3+ALL
                 E HEPATITIS C/CT
                 E E4+ALL
                 E HEPATITIS C/CT
                 E E23+ALL
                 E HEPATITIS C/CT
                 E E45+ALL
L52         12458 S L51 AND PY<=1998
L53          7263 S HCV AND PY<=1998
L54         15695 S HEPATITIS (S) C AND PY<=1998
L55         30402 S L51-L54
L56          9986 S (HCV OR HEPATITIS(S)C)/TI AND PY<=1998
L57         30402 S L55,L56
L58           370 S L57 AND ("E1" OR E1S OR "E 1" OR ENVELOPE 1)
                 E VIRAL HEPATITIS VACCINES/CT
                 E E3+ALL
L59          2710 S E6
                 E VACCINES/CT
                 E E3+ALL
L60         14769 S E65
L61        103130 S E4+NT
L62            40 S L58 AND L59-L61
                 SEL AN 5 10
L63             2 S L62 AND E1-E2
L64           330 S L58 NOT L62
L65            55 S L57 AND (MAERTENS ? OR BOSMAN ? OR BUYSE ?)/AU
L66            15 S L65 AND L58
                 SEL AN 12
L67             1 S L66 AND E3
L68             3 S L63,L67

     FILE 'MEDLINE' ENTERED AT 09:54:51 ON 06 FEB 2006
L69             1 S L68 AND PY<=1998

     FILE 'WPIX' ENTERED AT 09:56:33 ON 06 FEB 2006
L70           839 S (B14-A02A7 OR C14-A02A7)/MC
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                E B14-A02A7+ALL/MC
                E A61K039-29/IC,ICM,ICS
L71         1174 S E3-E5
                E A61K039-29/ICA,ICI
L72           93 S E3,E4
                E A61K039:29/ICI
L73           11 S E3
                E C07K014-18/IC,ICM,ICS
L74          438 S E3-E5
                E C07K014-18/ICA,ICI
L75           25 S E3,E4
                E C07K014:18/ICI
L76            4 S E3
L77         1653 S HCV
                E HEPATITIS(5A)C
L78         3650 S HEPATITIS(5A)C
L79         4952 S L70-L78
L80          305 S L79 AND ("E1" OR E1S OR ENVELOPE(S)1 OR "E 1")
                E MAERTENS/AU
L81           28 S E9
                E BOSMAN/AU
L82           21 S E18-E22
                E BUYSE/AU
L83           10 S E6,E7
                E INNOGEN/PA
L84          142 S E3-E12
L85           35 S L79 AND L81-L84
L86           21 S L80 AND L85
L87           15 S L86 AND ENVELOPE
L88            6 S L86 NOT L87
                SEL AN 1
L89            5 S L88 NOT E1
L90           20 S L87,L89
L91           15 S L85 NOT L90
L92            6 S L79 AND 192 AND 326
L93            5 S L80 AND L92
L94           20 S L80 AND L87,L89,L93
L95           20 S L87,L89,L93,L94
                E HCV/CN
                E HEPATITIS/CN
L97            4 S E7-E12
L98           12 S (387687-0-0-0 OR 302207-0-0-0 OR 219258-0-0-0 OR 96809-0-0-0)
L99           12 S (RA7PZY OR RA2451 OR RA0E8X OR RA1BBZ)/DCN
L100          12 S L98,L99
L101           2 S L80 AND L100
L102           1 S L101 NOT 2A/TI
L103          53 S L80,L100 AND PY<=1998
L104         110 S L80,L100 AND PRY<=1998
L105          95 S L80,L100 AND AY<=1998
L106         111 S L103-L105
L107           8 S L85 AND L106
L108          12 S L95 NOT L107
L109         103 S L106 NOT L107
L110           7 S L109 AND C07K017/IPC
L111           0 S L109 AND A61K039-44/IPC
L112           7 S L109 AND A61K039-42/IPC
L113          14 S L109 AND (C07K017 OR A61K039-42 OR A61K039-44)/IC,ICM,ICS,ICA
L114          14 S L110,L112,L113
                SEL DN AN 2 10 12 13
L115           4 S L114 AND E1-E10
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L116          12 S L107,L115
L117          89 S L109 NOT L110-L116
                 SEL DN AN 1 18 27 36 39 44 46 47 50 63-65 69 70  77
L118          15 S L117 AND E11-E45
L119          27 S L116,L118 AND L70-L118

     FILE 'WPIX' ENTERED AT 10:40:39 ON 06 FEB 2006

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